Report of the Royal Commission on Physical Training (Scotland).

Contributors

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ROYAL COMMISSION ON PHYSICAL TRAINING (SCOTLAND).

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REPORT

OF THE

ROYAL COMMISSION

ON

PHYSICAL TRAINING (SCOTLAND).

VOLUME I.

REPORT AND APPENDIX.

Presented to both Houses of Parliament by Command of His Majesty.

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ROYAL COMMISSION ON PHYSICAL TRAINING (SCOTLAND).

VOLUME I.

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GENERAL INDEX TO EVIDENCE.

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MEMBERS OF THE COMMISSION.

THE RIGHT HONOURABLE THE EARL OF MANSFIELD (*Chairman*).
THE HONOURABLE THOMAS COCHRANE, M.P.
SIR THOMAS GLEN COATS, BART.
SIR HENRY CRAIK, K.C.B.
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MR GEORGE M^{c}CRAE, M.P.
PROFESSOR ALEX. OGSTON, M.D., C.M.

MR R. B. PEARSON, Advocate, *Secretary*

TERMS OF REFERENCE.

To enquire into the opportunities for physical training now available in the State-aided schools and other educational institutions of Scotland; and to suggest means by which such training may be made to conduce to the welfare of the pupils; and, further, how such opportunities may be increased by Continuation Classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus to contribute towards the sources of national strength.

WARRANT.

EDWARD, R.

EDWARD THE SEVENTH, by the Grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith, to—

Our right trusty and right well-beloved Cousin William David, Earl of Mansfield (Chairman);

Our trusty and well-beloved Thomas Horatio Arthur Ernest Cochrane, Esquire, commonly called the Honourable Thomas Horatio Arthur Ernest Cochrane, Member of Parliament;

Our trusty and well-beloved Sir Thomas Glen-Coats, Baronet;

Our trusty and well-beloved Sir Henry Craik, Knight Commander of Our Most Honourable Order of the Bath, Doctor of Laws, Secretary of the Committee of Our Privy Council on Education in Scotland;

Our trusty and well-beloved Michael Hugh Shaw-Stewart, Esquire, Member of Parliament;

Our trusty and well-beloved James Carfrae Alston, Esquire, President of the Boys' Brigade;

Our trusty and well-beloved John Blackburn Fergusson, Esquire, Barrister-at-Law, Chairman of the School Board of Alloway;

Our trusty and well-beloved George M'Crae, Esquire, Member of Parliament; and

Our trusty and well-beloved Alexander Ogston, Esquire, Doctor of Medicine, Master of Surgery, Professor of Surgery in Our University of Aberdeen. Greeting!

Whereas We have deemed it expedient that a Commission should forthwith issue to enquire into the opportunities for physical training now available in the State-aided schools and other educational institutions of Scotland; and to suggest means by which such training may be made to conduce to the welfare of the pupils; and, further, how such opportunities may be increased by Continuation Classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus to contribute towards the sources of national strength.

Now know ye, that We, reposing great trust and confidence in your knowledge, discretion, and ability, have nominated, constituted, and appointed, and do by these presents nominate, constitute, and appoint you, the said William David, Earl of Mansfield, Thomas Horatio Arthur Ernest Cochrane, Sir Thomas Glen-Coats, Sir Henry Craik, Michael Hugh Shaw-Stewart, James Carfrae Alston, John Blackburn Fergusson, George M'Crae, and Alexander Ogston to be Our Commissioners for the purposes of the said enquiry.

And for the better enabling you Our said Commissioners to make the said enquiry, We do by these presents authorize and empower you, or any three or more of you, to call before you, or any three or more of you, such persons as you may judge necessary, by whom you may be the better informed of the matters herein submitted for your consideration, and every matter connected therewith; and also to call for, have access to, and examine, all such books, documents, papers or records as you shall judge likely to afford you the fullest information on the subject of this Our Commission; and to enquire of and concerning the premises by all other lawful ways and means whatsoever.

And We do further by these presents authorize and empower you, or any three or more of you, to visit and personally inspect such places as you may deem expedient for the more effectual carrying out of the purposes aforesaid.

And Our further will and pleasure is that you, or any three or more of you, do, with as little delay as possible, report to Us under your hands and seals upon the matters referred to you as aforesaid, and that you may have power to certify to Us, from time to time, your several proceedings in respect of the matters aforesaid, if it may seem expedient to you so to do.

And We further will and command, and by these presents ordain, that this Our Commission shall continue in full force and virtue, and that you Our said Commissioners, or any three or more of you, may from time to time proceed in the execution thereof, and of every matter and thing therein contained, although the same be not continued from time to time by adjournment.

And for your assistance in the execution of these presents, We do hereby nominate and appoint Our trusty and well-beloved Robert Barclay Pearson, Esquire, Advocate, to be Secretary to this Our Commission.

Given at Our Court at *Saint James's*, the thirty-first day of *March*, one thousand nine hundred and two, in the second year of Our Reign.

By His Majesty's Command,

BALFOUR OF BURLEIGH.

ROYAL COMMISSION ON PHYSICAL TRAINING (SCOTLAND).

REPORT

I. INTRODUCTION.

MAY IT PLEASE YOUR MAJESTY,—

1. We have now completed the enquiry which was committed to us by Warrant of Your Majesty, bearing date 31st March 1902, and we beg leave to submit our Report detailing the result of this enquiry, and embodying the conclusions at which we have arrived.

The subject remitted to us by Your Majesty is best explained in the words of the reference contained in Your Majesty's Warrant:—

'To enquire into the opportunities for physical training now available in the State-
'aided schools and other educational institutions of Scotland; and to suggest
'means by which such training may be made to conduce to the welfare of the
'pupils; and, further, how such opportunities may be increased by Continuation
'Classes and otherwise, so as to develop, in their practical application to the
'requirements of life, the faculties of those who have left the day schools, and
'thus to contribute towards the sources of national strength.'

2. We have held 28 sittings for the taking of evidence, and have examined 127 witnesses. In the course of conducting our enquiry in London, we judged it expedient to visit certain schools in the vicinity, with the view of making ourselves acquainted with different methods of training. For this purpose we paid visits of inspection to two London Board Schools, to the Duke of York's School at Chelsea, and to the London Orphan Asylum at Watford. We also saw in the Portsmouth Town Hall an exhibition of physical exercises given by the pupils of various schools. Later in the year we sat in Edinburgh and Glasgow; and visited the Clyde Industrial Training Ship 'Empress,' and the Mossbank Industrial School at Robroyston, near Glasgow. In addition, we paid visits of inspection—without sending notice beforehand—to six schools in Edinburgh, Glasgow, and Aberdeen respectively. We have inserted a list of the schools visited in the Appendix to our Report. Appendix VII.

3. We have had the advantage of taking evidence from the Assistant Secretary of the Scotch Education Department, Inspectors of schools, members of the medical profession, military officers of special experience, and certain persons qualified to give valuable expert assistance in the subject-matter of our enquiry. We have also had before us members or officials of all the principal School Boards, headmasters or assistant teachers of typical schools of all classes, representatives of the Training Colleges and of the Universities, members and officials of various voluntary agencies, the Chief Constables of Edinburgh, Perthshire, and Roxburghshire and Berwickshire, one of the Sheriff-Substitutes of Forfarshire, the Lord Provost of Glasgow, and other witnesses who had special experience of miscellaneous matters connected with our enquiry.

4. Beyond the sphere of influence covered by the compulsory clauses of the Education Acts, the remit to us embraces those scholars above the age of fourteen, for whose benefit Continuation Classes are maintained, and whose prospects in life, as well as their contribution by sound equipment to the general prosperity of the nation, must be powerfully affected by the educational influences—intellectual, moral, and physical—which may be brought to bear upon them during the critical period of life which intervenes between leaving the day school and the approach of manhood. We accordingly enquired how far the arrangements of the Continuation Classes might be considered to foster adequately this important branch of education: and our investigations necessarily led us also to enquire what additional inducements might be offered to such persons to avail themselves of the Continuation Classes, and how far it might be expedient, both in the interests of these

persons themselves, and of the community at large, to enforce attendance at these classes by legislative action.

5. We felt it to be our duty to take medical evidence with regard to the general physical condition of the youth of the country, to ascertain the data which were available for guidance, and whether any conclusions might safely be formed with regard to its tendency to advance or to decline. We enquired how far this was influenced by the means of training given in the various educational institutions of Scotland, and what evidence there was to show whether these opportunities were in themselves adequate, as compared with those available at other times or in other countries. There was some interesting evidence laid before us as regards the courses of training given in France, Germany, and Switzerland, and the systems in use in America and Sweden. It proved to be a necessary part of our enquiry that we should examine the bearing upon this part of training, of recent developments of national education, and the altered economic conditions involved in the rapid concentration of population in the large manufacturing towns. We sought the experience of those versed in the subject in order to judge how such training might conduce to the welfare of the pupils which the terms of our reference recognise as its primary aim, and what were the general principles that ought to guide us in deciding what arrangements were best adapted to that end, and what should be the lines of any system to be generally followed.

6. Having enquired into the requirements of physical training as a branch of national education, we next considered how far medical knowledge might be used as a guide and ally in this part of the work, and whether adequate use has hitherto been made of the assistance which medical science might afford. We examined and compared the views of experts with regard to the systems of physical training already practised in various schools, and with a view to recommending the general principles upon which such training should be based. We took evidence upon the capacity of the present body of school teachers in Scotland for undertaking such work; the training which was necessary; how such training might be given and qualifications tested; and what amount of expert assistance over and above the ordinary educational staff might with advantage be called in for training teachers, for giving instruction to scholars, or for supervising the system generally and maintaining its thorough efficiency. We made careful enquiry into the causes which were alleged to hinder that efficiency, and the reasons for the apathy regarding it which is occasionally found to prevail.

7. With respect to physical training in its bearing on those above school age, we thought it right to receive evidence from the representatives of various voluntary agencies, and to enquire how their efforts might be encouraged and directed, and how they might best be organised as effective allies in the work of national education.

8. Lastly, we thought it our duty, in obedience to the terms of the reference, to enquire fully into the conditions prevailing in institutions which stand outside the range of the usual educational operations of the State—principally the Higher Class Schools and the Universities. We obtained such evidence in regard to these as might enable us to judge how far they were giving adequate attention to this subject; in what respect they offered examples worthy of imitation and capable of adaptation in the State-aided schools; and how far any neglect of the subject was due to causes which admitted of remedy, or to the prevalence of mistaken views which might be altered by a more intelligent appreciation of the benefits of proper physical training, and its importance as an element of national welfare.

II. EXISTING OPPORTUNITIES OF PHYSICAL TRAINING AS REGARDS:—

(1) *The Elementary Schools.*

9. We have examined a large number of witnesses, both members of School Boards and school masters, representative of large towns and country districts, with regard to the existing state of matters in these schools. As was to be expected, we found that the opportunities varied in the different districts; but there was a consensus of opinion that the physical training throughout these schools generally was inadequate in quantity and quality.

Miss Stevenson, 2286. Mr Powell, 3047. Mr Craigen, 3058. Mr Davidson, 5978.

10. Some kind of training is given in most schools, owing to the demand in the Code for an 'adequate' amount; but this term appears to be taken to mean 'adequate, considering the opportunities.' Most of the witnesses who appeared before us agreed that the subject was of the greatest importance, but its recognition as a prominent branch of a liberal education appears to be theoretical rather than practical. And this is clearly demonstrated

by the amount of time allotted to it in the school time-table. As a rule the pupils receive instruction in some branch of physical training for half an hour a week. In some instances more time is devoted; indeed, in one or two cases as much as three hours *per* week were set apart, without detriment to the ordinary work of the school, but these were very exceptional. Rev. J. Smith, 9506. Mr Turnbull, 4565.

11. In many towns there appear to be considerable facilities which are not, however, properly taken advantage of. Many of the more modern schools have gymnasia attached, whilst the use of swimming-baths can often be obtained. There are also covered sheds in many playgrounds wherein the pupils can in all weathers receive instruction in physical exercises and drill. We are convinced that these are, as a rule, valuable adjuncts to the school buildings, and that they may often be used with advantage, especially in country districts, where the accommodation in the class-rooms is more restricted than in large town schools, which often have central halls. Miss Stevenson, 2286. Mr G. W. Alexander, 2800. Mr Bain, 4426. Mr Shearer, 4493. Mr Gillanders, 11,124.

12. One of the chief hindrances to the development of physical training in these schools appears to be the utter lack of system and the want of qualified teachers. Individual effort and enterprise have done much in certain schools, but we are convinced that a properly graded course of systematic instruction is indispensably necessary. We have elsewhere laid down the general principles on which, in our opinion, any such system should be based. Mr Lobban, 1239. Mr Taylor, 11,497.

13. But our enquiry has led us to recognise the importance and benefit of physical drill for all children, whether town or country, and we desire to see it constitute an essential part of any system. One practical advantage, which we ourselves saw in some of the largest schools, is that by means of the drill the school can be cleared in an expeditious and orderly manner. One headmaster told us that in the case of an alarm of fire all fears of panic were allayed by the simple and practical method of marching out the children to the accompaniment of music. Mr Taylor, 11,511.

14. Although we are fully alive to the difficulty of obtaining sufficient open spaces in towns for children's recreation immediately contiguous to the school, yet we do not think that this should present insuperable difficulties in the way of providing means for, and encouraging, games in connection with town schools, and we think that it is equally important to give such opportunity and encouragement in the country, where playing-fields can more readily be obtained. The development of games has made some progress in those schools where the teachers have personally attended to their organisation, and the results have been entirely beneficial, not only on account of the direct good arising from the healthy exercise, but also on account of the personal contact of the teachers with the children outside the class-rooms. And this might be extended were some means taken to arouse the sympathies of former pupils, whose assistance would be welcomed by the teachers. Mr Scougal, 1717. Mr Whitton, 2666. Mr Turnbull, 4565. Mr Gillanders, 11,124. Mr Beattie, 11,362.

(2) *Industrial Schools and Reformatories.*

15. We were informed that at eighteen out of twenty-three of these institutions for boys either free or applied gymnastics were taught; and at the remainder, some form of physical training. At the twelve schools for girls, instruction was given in physical drill, swimming, dancing and free gymnastics. Mr Legge, 730.

16. The Inspector of Reformatory and Industrial Schools, Mr Legge, besides giving us much valuable information, handed in the results of a physical census as regards his own schools, taken in 1901. Certain tables extracted from his report are printed in the Appendix. We were told that in such schools in England the physical training was much more fully developed than in Scotland, and this was attributed partly to the reason that the former schools possessed larger resources, inasmuch as they received greater support from the rates. The disciplinary results of the physical training were highly commended; in fact, one direct effect appears to be that lately the serious difficulties in the management of these schools have sensibly lightened. And it was maintained that, as regards the moral and mental improvement, it could be proved to demonstration that where the training was highly developed, the boys showed better educational results than in those schools where little attention is paid to this branch of education. Mr Legge, 740. Appendix I. Mr Legge, 861, 877.

17. On a consideration of the evidence, we have come to the conclusion that, with very unpromising physical and moral conditions and previous training, an immense deal has in such institutions been done by a system properly applied and vigorously pursued on a scientific basis.

18. The experience of such institutions clearly shows that physical training is quite as important in fitting boys for civil life as it is for boys intended for the Army or Navy. And the case is not different with regard to the girls. We were informed that in consequence of systematic training on somewhat unpromising material, fully eighty *per* Miss Hunter, 13,609, 13,657.

cent. turn out well. One benefit, out of many, appears to be that the girls show not only greater amenability to discipline, but an increased alertness in movement and apprehension, with the practical result that they are enabled to obtain better situations in domestic service.

Mr Legge, 724. Com. Deverell, 12,554. Mr Macfarlane, 12,743. Miss Hunter, 13,599.

19. The impression of the high efficiency of these institutions produced on our minds by the evidence of the witnesses representing the Reformatories and Industrial Schools, was increased by the visits of inspection which we paid to the Clyde Industrial Training Ship 'Empress,' and to the Boys' Industrial School at Mossbank. The last-named is under the management of the Juvenile Delinquency Board in Glasgow, under the special local Act of 1878.

20. Throughout these schools there is in operation a comprehensive system of physical training, including physical drill, gymnastics (free and applied), swimming, games, boat-pulling (remarkably well done by the boys on the 'Empress'), instruction in handicrafts and industries, etc. Ample accommodation, both indoors and in the open air, is provided for the purpose of thorough instruction in the various forms of training. In this connection we desire to notice the admirable gymnasium and swimming-bath at Mossbank, which was, in our opinion, the most suitably adapted for its purpose we have seen. The provision of this well-equipped gymnasium and swimming-bath, combined in one building, in which instruction is arranged for some four hundred boys, cost the moderate sum of £800.

Mr Macfarlane, 12,748.

21. Most of the boys who are received into these schools are waifs and strays, the result of being neglected at home; in the expression of one witness, 'they have been 'more sinned against than sinning.' As a rule, on entry, they appear to be very backward in education; and yet, owing to the admirable treatment, between ninety and ninety-five *per cent.* turn out good and useful citizens.

22. In conclusion, we desire to record our appreciation of the good work done in these schools, and to report that, in our opinion, the physical training carried out therein is, on the whole, adequate in amount and quality.

(3) *Training Colleges.*

23. A subject of the first importance in considering this question generally is that which relates to the opportunities for physical training available for the teachers of Scotland.

Mr Struthers, 8, § IV.

24. The Training Colleges have, we believe, for some time past given some instruction in drill to the male students. Up till 1901, drill, though often taken, was not a necessary part of their curriculum; not being included in the Education Department's scheme of examination for certificate, it was regarded more or less as an extra or voluntary subject, to be taken as the exigencies of other subjects allowed. In 1901 the Department undertook a reconstruction of the Training College curriculum, and in that curriculum physical exercises and drill have become necessary subjects, in which reasonable proficiency will, in ordinary cases, be expected as a condition of the issue of a certificate. Proposals for the instruction of students in these and other subjects have been submitted, we were informed, to the Department; but these syllabuses of work are to be regarded for the present as provisional only. An inspection of all the Colleges was last year made by Captain Armytage, Superintendent of Military Gymnasia in Scotland, on behalf of the Education Department, and we trust that similar inspection will be continued.

Dr Paterson, 11,393. Mr Macnee, 11,656. Canon Mackintosh, 13,116.

25. We had the advantage of hearing evidence of representatives of three of the Training Colleges, two for both men and women, and the other for female students alone. In two of these Colleges some of the students are attached to local Volunteer battalions, and undergo all the regular work and training of the corps, including, in one case, attendance at the summer exercise camp. Drill and physical exercises are taught by qualified instructors to all the students, unless medically exempted. This instruction is given either in the college hall or playground; for none of these Colleges are so fortunate as to possess a gymnasium, a defect we much deplore. Nor do they possess playing-fields, so that, with only a limited use of the public parks, games are not sufficiently taken advantage of. The amount of time devoted to training varied from two half-hours to three hours a week, these lessons being given in ordinary college time.

26. We were glad to hear that some lectures were given on Physiology, Hygiene, and the Laws of Health; and we would here point out how important we consider it to be that those who are about to become members of the scholastic profession, and particularly those who are to teach physical exercises, should themselves be thoroughly instructed in such subjects, so as to give to the children under their charge such instruction therein as may usefully supplement their practical physical training.

27. The principal difficulty, as we found elsewhere, appears to be the inability to allot a sufficient amount of time to the subject. As a necessary result of emphasising the importance of the subject, we consider that a systematic course of training should become a more prominent feature in the curriculum of the Training Colleges, and that it should receive a more liberal allowance of time than it does at present. Students should receive direct encouragement to attach themselves to a Volunteer company; for we feel convinced that this is an important factor in Training College life, and that its extension would prove to be beneficial, in giving the students a good all-round training, with the resulting good health and vigour, as well as in adding to their power for good in their future careers.

28. With regard to the insufficient accommodation in playgrounds and gymnasia to which we have alluded, we think that with the present very liberal terms of grant to the Training Colleges from the Parliamentary Vote, it is not too much to expect that the committees managing these institutions should be enabled, with the assistance of local funds, to make such addition to their accommodation and equipment as may be called for in the interests of sound training.

(4) *Higher Class Schools.*

29. There has been presented to us a considerable body of evidence with regard to the existing state of matters at the Higher Class Schools. We have examined the headmasters of several typical day and residential schools. The former included the Higher Class Public Schools under the management of School Boards, Endowed Schools under special administration, as well as the voluntary Higher Class Schools.

30. Although on general grounds the proportion of physical to mental training should be the same for all children, it is evident that the methods of organisation must be different in the cases of day and boarding schools, for the reason that in the latter the whole time of every pupil during each day is controlled and regulated by the school authorities, whilst in the day schools no such control is possible, the pupils attending for instruction during some five or six hours *per diem*, and thereafter being free of all school discipline.

31. In many of the Higher Class Day Schools there are considerable facilities provided for physical exercise and instruction. Drill and gymnastics, free and applied, form a regular part of the school curriculum, and, as such, are taken in school hours. These are taught in well-equipped gymnasia, with which almost all of these schools appear to be provided.

32. The amount of time *per* week allotted to these subjects varies from one half-hour in some instances, to one hour and a half in others; but in nearly all we found that as the pupil advanced he received less instruction in consequence, as was testified to us, of the pressure of other subjects.

33. In several of these schools cadet corps have been established, and in this way military drill and training is given to the older boys. The headmasters of these schools and others have strongly advocated the desirability of having some form of military drill and training as part of the curriculum of every school, thus affording a kind of training most valuable for the older boys. We have been much impressed with the weight of this evidence. Dr Spenser, 12,364, §§ 3 and 8. Mr Laming, 12,473. Mr Carrie, 12,636. Mr Temple, 12,862.

34. We found that practically all the Higher Class Day Schools were furnished with such playground accommodation immediately contiguous to the building as to enable the pupils to enjoy their recreative intervals between the classes in the open air if the weather permitted; and in addition, most of them had the use of large playing-fields, although in a few instances these were situated at some little distance from the school itself. The possession of these fields leads to a large number of the pupils taking part in the ordinary school games. Whilst in most cases the boys themselves organise and regulate these, generally there was some supervision by members of the school staff.

35. We were glad to hear from several of the witnesses that the former pupils' clubs, formed in connection with the schools, were doing some valuable work in not only stimulating interest in the games among the present boys, but also fostering a healthy *esprit de corps*. We are disposed to give great weight to the evidence tendered by many competent witnesses as to the high value of the great school games, which, we are convinced, constitute most valuable adjuncts to school life. In one instance the games were compulsory, and excellent results were obtained. Dr Almond, 9727, § 19. Mr Carter, 10,716. Mr Reid, 11,808. Dr Spenser, 12,364, § 5. Mr Laming, 12,473.

36. We also took evidence as to the existing opportunities for physical exercises in one large and typical Higher Class Day School for girls, where we were glad to note that a course of systematic training in drill, gymnastics, and dancing, formed a regular part of the school work. We found that the greatest care was taken to guard against overstraining or similar dangers, which, in view of the special conditions of health to which girls are subject, render it essential that the classification of the pupils for such exercises should be matter of special consideration, and that the exercises should not be carried on according to the classifica- Mr R. Robertson, 11,014.

tion applicable to the rest of school work. Two thoroughly qualified lady teachers, specially trained in the theoretical and practical work, have charge of the instruction. Whilst the drill and gymnastics, in accordance with Ling's Swedish system, were not compulsory, the lessons were taken advantage of by ninety *per cent.* of the pupils. Unfortunately, the school in question possesses no playground or field. In the absence of these, the place of games in the regular time-table was largely supplied by this systematic physical exercise; and we were told that this course was pursued with excellent results. We were informed that each class received weekly an hour's lesson in dancing, and the same in drill and gymnastics.

37. With regard to the Higher Class Day Schools generally, the evidence seems to show that in the case of many of these schools the subject of systematic physical training did not receive sufficient attention or recognition, and that the time devoted to it was inadequate. We are satisfied that this view is well founded, although we recognise that latterly there has been an advance in public opinion.

38. The chief difficulty urged against any extension of physical training in these schools was the lack of time, owing to the pressure of other subjects, demanded by the exigencies of competitive examinations. But there is, we think, no doubt that, even as regards mental conditions, better permanent results would ensue if all the pupils received adequate physical exercise. We are convinced that this is quite as necessary for proper intellectual equipment as for physical development.

39. As regards the further extension of games in these schools, our attention has been directed to the fact that many of the pupils come from a distance, and that, owing to the wide extent of area from which they are drawn, there are several difficulties which stand in the way of the proper organisation of games. Such organisation of games, together with some direction and supervision on the part of the staff, is not only most desirable, but also of high educational value.

40. This difficulty is no doubt increased by the distance at which some of the school playing-fields are situated. Nevertheless, much has been already accomplished, and there is no good reason why more may not yet be done, and why these Higher Class Day Schools, which have long been a special feature of Scottish education, should not set an example to Scotland in respect of the thoroughness of the physical as well as of the intellectual training which they offer to their pupils. If in these Schools the want of control over the leisure time of pupils militates against the games being largely taken advantage of, that is, in our opinion, a cogent reason for carefully guarding against the neglect of the systematic physical training which serves as the best substitute for games, and which ought in all cases to be taught with them. On the whole, whilst we are generally satisfied as to the efforts which are being made, we recommend that more time should be given to the subject. We consider that a necessary element in the liberal education of every citizen is a sound system of physical training, and that even where games are freely pursued, there ought to be in every Higher Class Day School a course of systematic physical training, including gymnastics, drill, swimming and the like. For this purpose we consider that proper arrangements and facilities should be provided, and also that instruction should be given in Hygiene and Physiology. It is most important that the pupils should not only have mastered the practical part of the training, but that they should understand something of the theory upon which it is based.

41. Not only is the theoretical education the proper and essential supplement to physical training, but we believe that if such instruction, in its relation for example to the Laws of Health, became a necessary and prominent feature in all schools, the general diffusion of such knowledge would gradually effect far-reaching improvements in the social, physical and moral conditions of the population.

Dr Almond, 9727, §§ 8 and 19. Mr G. Smith, 9978, § 6. Mr Reid, 11,808.

42. With regard to the boarding or residential schools, we found that the opportunities and facilities are both varied and numerous. They are possessed of ample playing-fields and playgrounds, with the result that games are universally taken advantage of, due attention being paid to their organisation. Several of the witnesses here, too, have laid special stress on the high value of games, as being not only recreative, but truly educational.

43. We fully appreciate these advantages, which have been admirably stated to us, and we recognise that they are one of a number of means towards proper physical training which should receive adequate encouragement. At the same time, as the evidence shows, it is most desirable that games, even when conducted under the most favourable conditions, should be supplemented by a systematic course of training. Without such training there are certain dangers and defects which are inseparable from games. A boy is naturally inclined to play the games he likes best, and perhaps thereby leaves undeveloped that portion of his body which requires most attention. On the other hand, the systematic physical course provides for the proper all-round physical development of such a boy; and it meets the case of those who, from weak health, from physique or like cause, shrink from taking

Mr G. Smith, 10,066.

part in the great school games. As a fact, this has so impressed the school authorities that they have already arranged, besides the opportunities for games, that there shall be provided courses of drill, gymnastics, rifle shooting, cadet corps, runs, swimming, boxing and fencing, and other means, not merely of supplying outlets for physical activity, but systematic physical development. Besides the benefit to health, obedience, self-respect and physical morality are promoted; and, briefly stated, there is abundant testimony to prove that a comprehensive and well-considered physical training is of material importance in the production of good results, physical, mental and moral.

44. On the whole, we are satisfied that the residential schools are alive to the importance of physical education, and that their authorities are conscious of their duty in this matter to the parents and pupils in providing proper facilities and ample opportunities. By our appreciation, we desire to encourage them in the valuable work they are performing, and to remind them that, endowed as they are with many peculiar advantages for the furtherance of this branch of education, they should make it their aim to be an object-lesson to the other educational institutions, and that in addition to games they ought to include in physical training a certain amount of systematic exercises and drill.

(5) *Universities.*

45. With respect to the Universities, we are strongly of opinion that the evidence discloses a lack of physical training which calls for some remedy, and which gives rise to serious regret.

46. In the first place, it is necessary to consider what opportunities are at present available in the four Universities. At Aberdeen, military drill is taught to about 120 of the students who are enrolled in a Volunteer company. There is also a Volunteer Royal Army Medical Corps, numbering 150 students. The King's students, male and female, numbering some sixty to seventy, receive instruction in physical drill during the summer session, whilst in addition there is a small gymnastic club who attend the gymnasium attached to the Aberdeen Physical Training College. At present there is no gymnasium at the University, but we were glad to be informed that in the reconstruction of the University buildings provision has been made for a large gymnasium. A lecturer appointed by the University authorities gives instruction to the King's students in Elementary Physiology and the Laws of Health, School Hygiene, etc. Whilst there is no swimming bath, there is a large playing-field contiguous to the University, and the interest shown by the students in games and athletics is represented by the fact that some 200 out of a total of over 800 take advantage of these opportunities. Mr Cruden 10,482 (2) (*b*).

47. With respect to St Andrews, we were informed that, with the use of a playing-field, a few students indulge in various games and athletics under the organisation of a recently formed athletic union; gymnastics are taught to a small class, and military drill to some ninety students who form the Volunteer company. Mr Sturrock, 12,003.

48. At Edinburgh, a prominent feature is the Volunteer corps. There is an efficient Volunteer company, the average number of students drawn from all the Faculties being 150 to 170; again, a battery of Volunteers belonging to the City Artillery contains about 75 students, also drawn from all the Faculties; and in addition there exists a special medical company belonging to the Royal Army Medical Corps, which always musters 100 men. In all, these embrace some 350 students. We are glad to know that such an interest is taken in the Volunteer movement, for therein lies a method of systematic training applicable to a large number of students. Under the organisation of an athletic club, which has a large playing-field, situated fully two miles off, and purchased partly by public subscriptions and partly by a grant from the University funds, about 350 students take part in various games. It has been pointed out to us that in considering the numbers of students who take advantage of the various opportunities for physical training, it is difficult to estimate the proportion borne to the total on the roll (between 2000 and 3000), for the reason that many students are members of both the Volunteer corps and the athletic club, and also that many who have been educated in the Edinburgh schools retain their connection with their old schools by belonging to the former pupils' clubs. There are no baths or gymnasium in connection with the University. Mr Gordon, 12,216. Sir Wm. Turner, 13,860.

49. With regard to Glasgow University, we were much surprised to learn that barely ten *per cent.* out of the total number of students (1500 to 2000) take part in any physical exercises organised in connection with the University. There is a playing-field adjoining the buildings held by the athletic club. The only drill taught is in connection with the University Company of the Royal Army Medical Corps. One gratifying feature is that there is a well-equipped gymnasium, built and furnished by subscriptions, which is managed by a joint-committee of professors and students. But this admirable institution does not attract students, for only some thirty to forty attend it for instruction. Apart Prof. Bower, 12,289, 12,291.

from allowing the gymnasium to be built on University ground and giving the field rent free, the University authorities do not afford any assistance to the students in obtaining physical training.

Such is, briefly, the existing state of matters at the Universities.

50. One of the chief difficulties again alleged is the lack of time. It has been represented to us that not only have many of the students no time for physical exercise, but many are unable to get their meals properly or at reasonable hours. The difficulty of finding sufficient time appears to be due to the students being unwilling to sacrifice any period of the day to physical culture, and also to the fact that the authorities find themselves obliged to arrange the classes closely together, in order that the University course may be taken within the minimum of time, and that each session may be brought within the present limit of rather less than six months. It is increased by the over-pressure of study, owing to the students being constantly in preparation for some kind of examination, for which the keen competition at present existing is largely responsible. So long as the progress and capacity of students continue to be tested only by the narrow and unsatisfactory criterion of written examinations, we fear that this cause will continue to be a deterrent.

Prof. Hay, 6828. Mr Gordon, 12,249. Prof. Bower, 12,305, 12,352.

Prof. Hay, 6829.

51. But there is also neglect on the part of the students themselves, due to ignorance as to the necessity for taking physical exercise, and to the feeling that it is only a waste of time. Under the force of circumstances, they appear to find it necessary to pay such exclusive attention to their book work, or rather to the somewhat restricted task of preparing for examination, that in the pursuit of what they conceive to be mental development, they neglect the rules of health, and the cultivation of that physical energy which is essential to real success in life.

Dr Spenser, 12,395.

52. No doubt this partly arises from the fact of many of the students having received no prior training, and this defect has been attributed, in a large measure, we think, rightly, to a lack of a proper appreciation of the subject in the schools, primary and secondary. If a boy's training at school has been one-sided and imperfect, it is not surprising that, never having been taught to regard physical exercise as necessary or desirable, he neglects it when left to his own devices at the University. Some witnesses of large experience strongly favoured the view that physical training in the Universities should be made obligatory. As materially assisting in the maintenance of health, it was asserted that it would promote intellectual progress; and whilst too many of the best students were inclined to neglect it, this was mainly due to the want of adequate facilities and proper organisation, and therefore it should not be left to the students themselves.

Prof. Hay, 6709. Mr Cruden, 10,488.

Prof. Hay, 6878.

53. One witness put the whole case for compulsion very forcibly:—'I think many of 'them would be a great deal the better for having a certain amount of physical exercise 'forced upon them. They go through their examination well, perhaps as the result of 'the extra time they are devoting to their studies, on account of their giving no 'time at all to physical exercise; but the ultimate outcome of it is not satisfactory—the 'final discipline of the man and his fitness for his ultimate life-work has been impaired 'by it, and one can easily point, in any Scotch University, to lads who afterwards suffer 'from not having taken sufficient physical exercise. They may have taken very high 'places in the University, but they have left it worn out physically and mentally, and fit 'for nothing strenuous in the battle of life.'

54. With the grounds of that opinion we entirely agree; but we deem any obligatory course to be at present both impracticable and inexpedient. We rather desire to draw the attention of the University authorities to what we conceive to be one of the necessities of education, especially in view of the probable general development in the near future of physical training throughout all educational institutions.

55. In our opinion, proper opportunities and facilities should be granted by the Universities. Careful consideration should be given to the question of time, admitted on all hands to be the chief difficulty, whereby lectures might be so arranged as to enable students to make good use of facilities, and to allow meals to be taken at regular and reasonable hours. We suggest, as a means of obviating, at least to some extent, the great overcrowding of lectures, and consequent over-pressure of study, that the sessions might be lengthened.

56. We are convinced that great benefit would result from the proper organisation of physical training; and were gymnasia, swimming-baths, fives-courts, opportunities for games, and, indeed, a systematic course of training, directly encouraged by the authorities, we are confident that a gratifying improvement among the students would be effected. The expense in connection with games and gymnastics, which we were told acted as a deterrent, should be reduced as far as possible.

Prof. Bower, 12,293A.

57. In the case of those students at the Universities who intend to join the teaching profession, we think that it should be a necessary and compulsory part of their training

that they should qualify in the teaching and practice of physical drill and gymnastics, by these being considered as necessary subjects of the qualifying examination. These qualifying classes should be open to all students, who might be trained together with those who are preparing for the scholastic profession.

58. We are compelled to report that the evidence laid before us brings out in the strongest light the grave fact that the physical education of the University students in Scotland is neglected; and we strongly recommend to the notice of the authorities the foregoing suggestions.

(6) *Feeble-minded and Cripples.*

59. We have had the advantage of hearing evidence from witnesses of special experience with regard to the education and training of the feeble-minded as well as the cripple and otherwise infirm children. It was gratifying to learn that so much is being done for the amelioration of these poor children. Miss Monteagle, 13,893. Mr MacKeith, 13,967.

60. With regard to the feeble-minded, we found that the children were taught in the ordinary Board School class-rooms. The degree of feeble-mindedness is determined by the doctor, who examines the child on a report from the teacher that it is making little progress in school work. After this medical examination the child is put into one of the main divisions. Simple elementary instruction is given, together with a course of training, of physical exercises and manual occupations. These exercises are found to be most salutary, and to exert a wholesome influence over *all* feeble-minded children. Miss Monteagle, 13,926.

61. It is eminently advisable to have these mentally defective children in special classes, both for their own sakes and for the sake of the other children, for when they attend the ordinary schools they are very often neglected. Whilst in large centres special classes can be properly arranged, there is more difficulty with regard to country districts. In the latter the difficulty would probably best be met by the provision of special institutions, such as exists at Larbert. Miss Monteagle, 13,946.

62. The education of cripple and infirm children is in Glasgow carried on by philanthropic organisations with the co-operation of the School Board, and much good work is being done with the aid of special invalid schools. The physical exercises are controlled by medical examination of the children. The doctor visits the school each month, examines the children and determines what exercises are suitable, an eminently satisfactory arrangement. We desire to notice the good work carried out in connection with these children, for the treatment they receive has very practical results. The first is that, whereas they were formerly neglected, they now receive such education, under careful supervision, as is compatible with their condition; and secondly, by being trained to handicraft, with the aid of suitable physical exercises, they are enabled to do a sufficient amount of remunerative work to give them an independent livelihood, instead of forming a burden on the rates. In brief, the aim of those in charge of their education is to fit them to help themselves. It was pointed out to us that, whilst these special invalid schools were under the management of School Boards, these authorities had not the powers to go the whole length and take the entire charge of these children. It is the duty of the School Board to see to the teaching of each child; but owing to a number of children being physically unable to go to the ordinary school, there must be special provision made if they are to receive instruction. Mr MacKeith, 13,967. Mr MacKeith, 14,033.

63. We see no reason why, on the analogy of the Blind and Deaf Mute Children Act 1890, and following the course pursued in England, the School Boards in Scotland might not have powers to support or contribute to institutions for such children. There are obvious reasons why the exercise of such powers should be carefully watched, and no inducement should be offered to bring children who might receive instruction in the ordinary way, within the category of the feeble-minded. But it appears to us that the conditions set forth in the Scottish Code for the payment of grants to these children are well devised in order to guard against these dangers, and may be trusted to prevent abuse.

III. PROPOSED REMEDY AND MEANS OF ENCOURAGEMENT.

64. Convinced as we are of the inadequacy of the present physical instruction which is given in the State-aided schools as a whole, we have next to consider what remedy may be proposed.

65. A ready means of attracting attention to the subject, and encouraging the devotion of a larger proportion of the time available in the school curriculum to it, may be suggested in the offer of a special grant. But there are many objections to such a course. In the first place, unless the existing proportion between local effort and Imperial grant is to be interfered with—a result which involves financial rather than educational considera-

tions, and therefore lies somewhat beyond the term of our reference—any grant for physical instruction would have to be provided by diminishing some other item in the Imperial contribution to the expenses of the school. Besides this, the system of grants for special subjects has been deliberately abandoned on the strongest educational grounds, and it seems to us undesirable to re-introduce it. It has a tendency to divert the mind of the teacher from the real educational development of his school, and to sacrifice that to financial considerations. It tempts him to crowd the curriculum in order to attain the minimum amount of efficiency in a variety of subjects which may secure a grant in each, rather than to cultivate to the full the interest and intelligence of the children where these can be most easily aroused, and to frame a curriculum so balanced as to develop their faculties in just proportion.

66. The remedy, we believe, is to be found in an improvement in the curriculum of the schools. The idea must be abandoned by teachers and managers alike that the best curriculum is that which is most varied and comprehensive. We have repeatedly been informed by teachers who gave evidence, that the real objection to increasing the time allotted to physical instruction lay in the excessive demands of the Code. But none of them was able to show that the imperative demands of the Code were excessive or could be reduced, nor could they show anything in the Code which encouraged a multiplicity of subjects. It was asserted that, even although the Code did not make such demands, the idiosyncrasies of individual Inspectors operated in this way, and that teachers could not hope to obtain a good report if they did not show proficiency in a variety of subjects. We cannot, of course, pronounce what foundation there is for this assertion, but we would strongly urge that the instructions issued to the inspecting staff should be sufficiently clear and explicit to prevent any such danger, and that the Chief Inspectors should vigilantly exercise their authority to prevent such action, which is, we are convinced, entirely opposed to the spirit and intention of the present Code.

67. The difficulty arises very largely from the prevalence of long-continued habit and antiquated views on the part of school authorities, teachers, and parents. While we found on the part of all the witnesses a perfect readiness to admit the importance of physical training, we found hardly any who had accustomed themselves to think of it as deserving anything more than an infinitesimal portion of school time. The period allotted to it sometimes fell to a quarter or half an hour a week, and very few teachers considered it possible to allot as much as two hours a week to it, or, indeed, appeared ever to have contemplated the possibility of such a thing.

68. The habit of mind produced by former Codes, which regulated payments by the number of subjects taken up, has by no means disappeared. Teachers are accustomed to measure their own success by the catalogue of subjects which they can take up. They believe that this must be the basis of the judgment of others on their work. The same tendency is perhaps still more marked on the part of some School Boards, who find such a method of criticising the work of those in their service to be easy and obvious, if it is not very intelligent. We can only trust that such a tendency may be abandoned as sounder educational views come to prevail.

69. On the part of parents also, there is a habit of regarding the end and object of school from a mistaken point of view—arising here also, in our opinion, from faults in previous systems. Until the Education Act of 1901 was passed, the exemption from compulsory school attendance could be gained at ten years of age, provided that the fifth standard was then passed. It became an object, therefore, to attain this exemption at this early age—often with the very worst results on the pupil. But to do so as quickly as possible became the dominating aim of school life, and there was a strong temptation to regard the work which assisted this as the only important element in that life.

70. The Act of 1901 has absolutely abolished the method of exemption by passing a standard. The period of compulsory attendance is regulated by age, with such modifications as may be exercised at the discretion of the School Board. The harmful influence of pressing the pupils so as to pass a certain standard at the minimum age—which we believe not only to have been pernicious to the children themselves, but to have introduced an unsound conception of the aim of education—is thus removed. We trust that its removal may lead all concerned to take a juster and more enlarged view of educational effort. But we fear it has tended hitherto, and may continue to tend until the evil effects of habit have passed away, to interfere with the curriculum of schools, and to assign in that curriculum an exaggerated place to subjects that can be tested by annual examination.

71. We believe that the fundamental scheme of instruction laid down in the Code does not, if rightly understood, make any undue demand. In the time-tables of the Schools which we have seen, there is frequently a division of subjects which might very well be treated as parts of a whole. English, for instance, ought not to be treated, as it often is, as forming several subjects, a certain time being allotted to Grammar, Analysis,

Spelling, and Composition. The subject is essentially one, and it may be treated with greater variety, greater interest, and less demand on time if it be dealt with as a whole. The subject of Nature-Knowledge, again, instead of embracing a wide range of sciences, classified under different heads, should be narrowed down to the most simple methods, and should comprise as little as possible of miscellaneous information, requiring exercise of memory rather than thought and observation. Its aim is to train intelligence and observation, not to overload the memory. If the real aim of the Code were more fully grasped, teachers would find the demands on their time much less heavy, although doubtless the substitution of intelligent and adaptive teaching, in place of methods of routine, would lay a severe burden upon the energy, the attention, and the natural aptitudes demanded from the teacher.

72. We believe that were such methods to prevail, and were the wider aims of education more fully recognised, ample time would be found for sufficient physical exercises without trespassing on the proper intellectual training of the children. But unquestionably a new conception of education must be formed. It is too much the habit to judge of efficiency by the work of each day, and to test the development of the children by their advance from week to week, month to month, and even year to year. It is not observed that the Code makes no demand as to the amount of periodical advance. The normal school career of every child is nine years. This is ample for any ordinary elementary training, and there must be something essentially wrong with our educational system if it cannot, as a general rule, give a fair mental and physical training within that time to any average boy or girl. But we shall never succeed so long as the standard of advance is measured only by the month or the year. The real educational problem is, not how many subjects can be pressed into a curriculum, but how the nine available years can be best spent, so that no essential part of the equipment for life is entirely overlooked.

73. The contrast in this respect between some of the Industrial and Reformatory Schools which we have visited, and the ordinary schools, is very marked. There is no doubt that in many of these institutions the children rescued from unfortunate surroundings, and committed by order of the magistrate, enjoy advantages which are not open to the child of respectable parents. In these institutions there is no question of overcrowded curriculum. The whole day is judiciously mapped out, and so allocated as to produce the most wholesome tone and atmosphere, and enforce sound discipline. No one would attempt to carry on such institutions with the minimum of physical exercise allotted to the children in most day schools. To pass a certain standard at a certain age is not, and never has been, the aim of the pupils in those schools. The whole effort of the staff is necessarily directed to one aim, viz., to turn those neglected children, who often have already entered on a career of crime, into sound and respectable citizens, with mind and body so trained as to enable them to start life on favourable terms.

74. We have no wish to interfere with the Industrial and Reformatory Schools, and similar institutions, and we believe that no suggestions as to physical training are necessary in their case. But undoubtedly they offer advantages which are not open to many who recognise their parental responsibility. We have no wish to suggest anything that may impair the sense of that responsibility, which is a valuable national asset. But the question remains—do our Elementary Day Schools give as many of the advantages of these institutions as if properly organised they might embrace? Have these ordinary Elementary Schools not tended rather in the direction of a lop-sided curriculum, which takes little, if any, account of some essential element in the training of a good citizen? Nine years of the life of each boy and girl must be spent in these schools. Are these schools so arranged that they shall take a large place in the life of the children during these nine years; shall be to them places attractive as well as instructive; shall disregard no one of the faculties essential to fit them for their work in after life; and shall eventually turn them out with an adequate intellectual, moral, and physical equipment?

75. We fear that the answer in the case of a great many of these schools must be in the negative. This is due to no fault on the part of the teaching staff. They are called upon to put the children through a certain course of training. They feel compelled to follow certain fixed habits, and to conform to certain deeply-grounded conceptions of school work. They have not been permitted sufficient freedom of method in the past, and they seem unwilling or unable now to assume it.

76. In many of the better class Elementary Schools this produces no very harmful results. The children are well looked after at home, and they can very well devote to strictly scholastic work the hours of their school attendance. But it is not the case with the poorest schools—or, indeed, with the majority of scholars. We were struck by the fact that, in the large towns, the schools in the poorest localities were those which had fewest advantages as regards physical training and recreation opportunities. It is above all for these schools that we think a very elastic curriculum is absolutely essential, and that, at least during the earlier part of the school life, the physical and recreative part of education

is as valuable as anything of the nature of book work or brain work, and should bear a proportion to the rest of school life quite different from that hitherto assigned to it. We believe that by this means the school would become a centre of attraction; that it would take a larger place in the life of the scholars; that it would leave a deeper impression and play a larger part in their moral and physical training; and that, even with this restriction of the time allotted to them, the purely intellectual results in the pupils at the end of their school time would not only not be impaired, but would be greatly enhanced.

77. For this purpose we recommend that while a minimum of at least two hours a week, properly distributed, should be required in the case of all school children, school authorities should be at liberty, when circumstances seem to render it expedient, to assign any proportion of time which they think fit up to one out of every two school openings, to physical exercises on an improved system, games carried on under proper supervision, or occupations, also under proper supervision, of a more or less recreative character. Where weather permits it, the physical exercise or games should be conducted out of doors. Where this is not possible, they should be carried on in a gymnasium or recreation hall.

78. Comparing the time allotted to such occupations in the Higher-Class Schools (as stated to us in evidence) with that given to them in the State-aided schools, we find that while the average in the latter schools ranges from three-quarters of an hour to one and a half hours a week, in the Higher Schools from one-third to one-half is the proportion of time given to them. It must further be remembered that in the case of the Higher-Class Schools this does not probably cover the time which the scholars spend in this way during their leisure and at their homes. If we compare the Elementary Schools, where many of the scholars have little opportunity outside school hours for healthy or improving recreation, the contrast is striking. It can hardly be maintained that the time now allotted to such occupations in the Elementary Schools bears any fair proportion to that which is given in the case of children whose parents choose for themselves, and are guided, presumably, by medical advice. If the absence of such wise allotment of time is injurious to the elementary scholars, the loser is the State as a whole, no less than the individual.

79. This disproportion is confirmed by a comparison of the premises of the Higher-Class Schools with those of the Elementary Schools. In the Elementary Schools as a whole, the class-rooms compare very favourably with the Higher-Class Schools. But it is quite different when we come to compare the playground accommodation. No Higher School could subsist for a year unless it provided ample playground accommodation for its pupils. Even in the case of Higher-Class Schools under School Boards, it is evident that in most cases no expense is spared in providing ample playgrounds for the pupils; and yet the same School Boards appear to think that they have done all that is required for the Elementary Schools if, along with large and admirably-equipped school-rooms, they provide a small paved yard in which the children can get an occasional breath of air, but where games are entirely out of the question. Higher-Class Schools frequently have the use of fields of some acres in extent, situated at some distance from the school. Not in a single instance did we find that such fields were provided, even for a combination of several Elementary Schools.

80. This contrast is very striking. Money has been spent lavishly in stone and lime, where the more formal school-work can be carried on, and school-rooms have been built which excel many Higher-Class Schools. But gymnasia and playgrounds, which would not have cost nearly so much, and are equally necessary for the welfare of the poorer scholars, have been much neglected.

81. We are quite alive to the necessity for keeping expenditure within due limits, and have no wish to advise measures which would involve serious increase on the public burdens. We are convinced that larger accommodation for physical and recreative training is required, but we see no reason why it should lead to lavish expenditure.

82. We think that at present many of the children are too long confined to the atmosphere and surroundings of the school-room. We are convinced that they would be benefited by being occupied for four or five mornings or afternoons in the week in physical exercises, games, or such light instruction as might be given in conversational form to large numbers at a time, and the evidence before us leads us to believe that this might be effected without any increase of home lessons. If a certain proportion of the children—say about one-third, or about 300 in a school of 1000 children—were moved in relays to a playground or gymnasium, this would be beneficial to them, and it would largely relieve the pressure on school accommodation in large towns. Both for teachers and children it would give a much-needed relaxation, by change of scene and work. In large towns the growth of population involves a ceaseless and costly addition to school places. We are convinced that it would be of immense benefit if, for a time, the additional school places took the form of playground or gymnasium accommodation. By this means their school

life would become infinitely more attractive to the children. The change of occupation would greatly relieve the drudgery of the teachers' work, and would give them that elasticity of mind which is essential to the best efficiency. The school would enter more largely into the child's life and would assist to make up for any defects in home training. There might be less book work done from day to day, but we are convinced that the result of such a system, after a course of years, would give better intellectual results, while the moral and physical aspects of education, which are now pushed aside, would be advanced by such a process. We find a certain confirmation of this in the fact which was brought under our notice in evidence, that in half-time schools good and improving results were obtained in the case of children who give a smaller proportion of time to school work, in the strict sense, by means of an improved staff, increased attention, and a system better adapted to the circumstances of these children.

83. We think that prospective increase in the school population should, at least to a large degree, be met not by added school accommodation, but by playgrounds and gymnasia or recreation halls. How far this can be carried out in particular instances must, of course, be matter for the consideration of the Education Department and of Local Authorities. But we are convinced that where it can be carried out, the result of working by such a relay system, leading to the interchange of children between the recreation and the class-room, would be at once economical and beneficial in its results. We urge that these results be judged with patience, and not by the narrow and deceptive test of examinations recurring at short intervals.

84. There is another consideration in favour of such a system, which we are not disposed to disregard. Formerly, the voluntary element in the work of our Elementary Schools—that is to say, the assistance that was freely given by those who had a personal interest in the work—was very large. It brought sympathy to the teachers, introduced a fresh element into school life, and made the school the centre of many beneficial agencies. We think there is no scheme more likely to revive that voluntary assistance than the institution of places of recreation, which would be the common meeting-ground of a group of schools.

85. So far as physical training consists in systematic physical drill, we think it should be an integral part of the school curriculum. But equally important for the development of a healthy body is a due encouragement of sports and games. The organised game is a characteristically British institution. Foreign countries envy us the splendid moral discipline of the cricket or football field, and the debt which we undoubtedly owe to foreigners as regards gymnastics, free and applied, we are now repaying with interest in teaching them our games. But the bulk of the school population of this country have never had the advantage of this institution. In Higher-Class Schools the position of games has reached a pitch which some people regard as dangerous; there is little fear that this will ever be the case in our Elementary Schools.

86. For the proper organisation of games we believe that voluntary assistance can and should be enlisted. In most districts will be found cricket, football, swimming, boating, athletic, cross-country clubs or associations. We believe that the moving spirits in these clubs could be called upon for co-operation. But we should like to see this done systematically. We should like to see every School Board associate with itself a games committee, formed of the moving spirits mentioned above, and teachers distinguished by a love of games. To that committee might well be referred all matters connected with games or athletics, and above all, the necessary arrangements for the profitable employment of holidays and half-holidays in healthy exercise. Clubs may be found ready enough to lend their grounds and apparatus for games properly organised and under skilled direction, when they might hesitate to admit a rough crowd for mere unregulated play. The difficulty and expense of finding playgrounds may thus in a measure be mitigated. There are very few grounds in the country which are occupied by their regular tenants in the forenoon of any day in the week. The games committees of adjacent districts will naturally confer, and so the whole country be gradually covered with a network of good comradeship. We are confident that were the Department to issue an official invitation to School Boards to appoint games committees as suggested, the response would be a ready one, and a humane interest aroused which could be productive of nothing but good.

IV. CONTINUATION CLASSES, AND LOAFERS.

87. In the case of scholars over fourteen years of age, the chief means of educational influence are those afforded in connection with Continuation Classes.

88. The first question which arises in regard to these classes is, whether in their arrangements adequate weight is given to physical training, and whether its importance for youths

of the age of those attending such classes is sufficiently recognised. The next question is, whether means might be taken to enforce attendance at such classes.

89. With regard to the first question it has been suggested that, as in the case of day schools, an adequate amount of physical training should be an essential and universal condition of grant to Continuation Classes. We are of opinion that by many who attend such classes, and who gain benefit by the advanced technical instruction which may be obtained in them, any such universal rule would be resented, and would seriously interfere with the usefulness of the classes. But we are nevertheless convinced that, short of such a universal rule, applicable to all scholars in Continuation Classes, it would be reasonable to require that all groups of Continuation Classes which are recognised by the Education Department should afford adequate opportunities for physical training for those who desired to avail themselves of such opportunities; and, further, that those pupils on whose account grant was claimed under Division I. of the Continuation Class Code (*i.e.*, on account of education which is complementary to elementary education), should be required either to take part in that physical training, or to produce a certificate of sufficient previous training of the same kind, adequate to their age and strength.

90. We believe that our proposals with regard to Continuation Classes will popularise them, and that an increasing number of well-disposed young persons above fourteen will take advantage of them, and incidentally profit by the physical training which we desire to see a prominent feature in connection with them. But there will always remain a certain number of those who are not well-disposed. They are without satisfactory home influences; they lead as children a shifty existence; they contract a love of loafing about the streets; and as they grow up they fight shy of regular work, and prefer the attractions of a street corner or the shelter of a railway arch to those of any Continuation Class.

91. In considering what can be done for such young persons, we are conscious that we are in some degree trenching on the great question of vagrancy, the problem of dealing with which is now as ever under discussion, and still far from solution. Our contribution to the discussion relates to loafers and vagrants who, though not children, are yet young, and with regard to whom an experiment may be tried with greater hope of success than in the case of adults.

92. The English Vagrancy Act, 1824, of which section 4 was amended and made in its entirety applicable to Scotland by the Prevention of Crimes Act, 1871, section 15, enacts that persons committing certain offences shall be deemed rogues and vagabonds, and may be imprisoned for three months with hard labour. Included in the definition of a rogue and vagabond is, 'every person wandering abroad and lodging in any barn or 'outhouse, or in any deserted or unoccupied building, or in the open air, or under a tent, 'or in any cart or waggon, not having any visible means of subsistence, and not 'giving a good account of himself or herself.'

In section 144 of the Glasgow Police Act, 1866, a vagrant is defined as follows:— 'Any person who within the city is found wandering abroad, or lodging in any barn or 'outhouse, or in any deserted or unoccupied building, or in the open air, or under a tent, 'or in any cart or waggon, shall be deemed a vagrant unless he proves, to the satisfaction 'of the magistrate, that he has a fixed place of residence, and some lawful means of 'gaining a livelihood within the city.'

The Burgh Police (Scotland) Act, 1892, section 408, makes 'every person conduct- 'ing himself as a vagrant, having no fixed place of residence and no lawful means of 'getting his livelihood,' liable to fine or imprisonment. This Act applies to every existing burgh, except Edinburgh, Glasgow, Aberdeen, Dundee, and Greenock (which may, however, adopt it in whole or in part), and to every burgh created under the Act.

93. These definitions will cover most of those whose case we are now considering. The law provides ample means of punishment. The only alternative to punishment, beyond handing over to the Inspector of Poor those who are fit objects for parochial relief, is limited to the case of those below sixteen, who can, on conviction, be committed to a Reformatory. This course undoubtedly gives a chance to the young loafer who oversteps the narrow line separating vagrancy from what can more strictly be called crime. But the expense of maintaining for a long period all who might conceivably profit by committal to a Reformatory School must be a bar to the use of the Reformatory Acts except in grave cases. What is wanted is a means of dealing with the loafer who has not overstepped the line; a remedy, not a punishment; a scheme at once practicable and economical; and one which shall be available for young persons up to the age of eighteen, not merely sixteen.

94. Some assistance in solving the problem may be afforded by a consideration of what is done for children under fourteen who commit offences against the law, or who have to be rescued from criminal surroundings, or who prove themselves confirmed truants. These

may be committed to Industrial Schools. But Industrial Schools are of three kinds: First, the ordinary Industrial School, where children are detained for a series of years; Second, the Truant Industrial School, where they are detained for a few weeks; Third, the Day Industrial School, where they receive their food, elementary education, and industrial training in the school, but continue to sleep at home. Can nothing be devised for young persons between fourteen and eighteen, similar to the Truant School, or the Day Industrial School? It is extremely doubtful whether the latter can possibly be as effective in the case of young persons as of children. The attendance of a child at the Day Industrial School implies that the school has the backing of some parental influence, however slight. It may be taken for granted that no street loafer or hooligan over fourteen is subject to any parental influence whatever. But what might be done is to give a Court power, where it thinks fit, to make in a particular case of proved vagrancy a Compulsory Attendance Order at a Continuation Class, with a penalty, in case of non-compliance with the Order, of committal to the special class of school described below, to an ordinary Reformatory School, or even, in the last resort, to prison.

95. We suggest that the experiment of establishing a Short Detention School, which should bear the same relation to the Reformatory that the Truant School does to the ordinary Industrial School, might well be tried. Under the existing law a child whose case does not appear to call for a long period of detention can be committed under an indeterminate sentence, nominally expiring at the age of fourteen, to a Truant School. After a few weeks he may be licensed out on condition of attending regularly an ordinary school. If he breaks that condition, he is called back to the Truant School, and he is detained there for rather a longer term before he can earn a fresh licence. In the report of Your Majesty's Inspector of Reformatory and Industrial Schools for 1900, it is stated that, of the 34,000 children who up to that date had crossed the threshold of a Truant School, more than half had done so once and no more; while only about one in six had had to be admitted more than twice. In the same report it is stated that the Glasgow School Board is about to open a Truant School. It would be well if some Local Authority had power to establish a similar school for the older class of whom we have been speaking. An essential condition for the success of the enterprise would be that those dealt with should not be youths whose fit and proper place is the ordinary Reformatory School. There must be discrimination. The magistrate should only commit to the Short Detention School those whom he is quite certain he ought not to commit to the Reformatory School, and the committal should not count as a criminal conviction. The Short Detention School should be as brisk and lively, as strenuous in the activity of the schoolroom and the workshop, and of the drill yard or gymnasium, as the best organised Truant School; and a licence, conditional on regular work and attendance at a Continuation Class, should be easily earned. There seems no reason why such an institution should not be as effective as a Truant School, and we suggest that the proposal is at least well worth a trial. An objection may be raised on the score of expense, but if the experiment succeeds it will furnish an answer to that objection, because success would bring a perceptible reduction in the number of young loafers or hooligans, and a corresponding saving to voluntary subscriptions, the rates, and the Imperial Exchequer.

V. EXISTING PHYSICAL CONDITIONS.

96. Of the various factors underlying the Reference in Your Majesty's Warrant, not the least important is an enquiry into the exact state of the children in the State-aided schools and other educational institutions of Scotland, who constitute the material to which physical training may be applied, in regard to their need of it, their fitness to benefit by it, and especially the numbers and classes amongst them who, from impaired health, or bodily or mental defects, call for exceptional precautions in its application to them. On this section of our enquiry the evidence placed before us was found to be deficient; for though opinions were freely tendered, proved facts were few, owing to the great labour entailed and special skill called for where measurements and observations upon which statistics could be based had to be made. We therefore took steps to obtain some exact evidence in detail from examinations specially conducted, which, as will be seen lower down, has produced very valuable information.

97. The chief data which we found ready at our disposal regarding the physical condition of the inhabitants of the British Isles lay in the 'Final Report of the Anthropometric Committee of the British Association of 1882–1883 (F. Galton, Chairman), drawn up by C. Roberts and Sir Rawson W. Rawson,' which embraces both children and adults; and the most important Tables from this Report have been reproduced in the Appendix. Appendix VII.

Appendix V. 98. We were also furnished with Tables regarding the measurements of girls attending the North London Collegiate School, from Mrs Bryant, its headmistress; and regarding English and Scottish children in Industrial and Reformatory Schools, from Mr James Appendix I. G. Legge, Inspector of these schools. Although fragmentary and only partially applicable to the ages chiefly dealt with in our enquiry, these data were of sufficient importance to warrant their being reproduced.

99. Of especial value was the statistical evidence, bearing specially on our enquiry, supAppendix III. plied by Dr Francis Warner, the most important Tables of which appear in the Appendix to our Report. They supply information regarding the measurements of American children of school ages, which were compiled by Dr Bowditch of Massachusetts from Boston schools, and also an extensive, accurate and valuable series of statistics concerning various matters dealing with the nutrition and the mental and physical condition of 100,000 boys and girls in English schools. They are worthy of a careful study, but it is sufficient here to say that among the most striking facts which they reveal are that 3 *per cent.* of the whole Appendix III., were delicate or badly nourished, and 7 *per cent.* were mentally dull. One of Dr No. 6, §§ C. and D. Warner's Tables embraces 50,000 English, Irish and Jewish children, and shows a per-
Appendix III., centage of Low Nutrition varying between about 4 to 6, and of mental dulness varying
No. 7. between 6 and 14, Irish children being 50 to 100 *per cent.* (approximately) worse than
Appendix III., English or Jewish children, who stand nearly equal. Dr Warner's Tables further show
No. 11. that of 50,000 London school children, 239 were cripples, or 0·47 *per cent.*

Appendix IV. 100. Lieut.-Col. W. G. Don, A.M.S., supplied us with information, showing that out of about 12,000 recruits examined for the Army, over 31 *per cent.* had to be rejected for diseases or defects, and as these figures refer to young men not very much over school age, they were considered as sufficiently germane to our enquiry to be preserved among the statistics bearing upon it.

101. We were able to obtain statistical evidence concerning the results of physical training in improving the condition of children from Mr Thomas Chesterton and Mr Rippon Appendix II. Seymour, and as it was the only evidence of this nature tendered to the Commission,
Appendix VI. their figures were considered suitable to be inserted in our Records. They are valuable testimony to the benefits of physical education, as tested by the standards of height, weight, and girth.

Appendix III., 102. But throughout all the evidence which we obtained, there was little which could be
No. 8. directly referred to Scotland and the children in Scottish schools. Only in one Table, by Dr Warner, were children of that nationality dealt with: 1600 Scottish were compared with over 5000 Jewish, 4000 Irish, and 38,000 English school children. These children seem, however, to have been domiciled in England, and to have been attending English schools. The Table dealt with a limited section only of the physical condition of children, and we could not infer that they fairly represented the children in the schools of Scotland, with whom our enquiry was concerned.

103. It was felt that further information must be obtained, in order that a correct judgment might be formed as to the subjects in Scotland to whom physical training was to be applied; as only thus could we correctly judge of the effects it was likely to produce, of the need which exists for it, and of the precautions called for in the case of the feeble and defective. Such a step appeared also to be of importance as likely to afford a basis for observations regarding the future well-being of Scottish children, and the results which an improved system of physical training may possibly have upon them.

104. It was obviously desirable that such information should include reliable statistics regarding both urban and rural children, if they were capable of being quickly and readily obtained. This, however, proved not to be the case. There was little difficulty with the towns, but to have collected sufficient numbers, under identical conditions, of children attending country schools, was recognised to be, for the moment at least, impracticable, and that to attempt to do so would vitiate the statistical results. It was therefore decided to select Edinburgh as one base of observation, and a town in a totally different part of Scotland as another to be compared with it; and for the latter we selected Aberdeen. It was considered that, in this manner, a fair representation of the state of matters throughout Scotland generally would be obtained, especially if the experts entrusted with the investigation were instructed to discriminate, in each place, between schools attended respectively by the poorest and by the better classes, and between urban and suburban schools.

105 In order to limit the time demanded for an adequate investigation, it was decided to examine, in each of these towns, 100 girls and 100 boys in each of three groups of school ages—viz., equal numbers in each year between six and nine, nine and twelve, and twelve and fifteen—which would afford ready percentages of each sex in each group, would bear prompt comparison with standard tables, and would extend over 1200 Scottish school children. This number, though not very large, would, it was expected, in the hands of such thoroughly competent examiners as the Commission would appoint to conduct the in-

vestigation, afford data so accurate as to be unlikely to vary materially from those which a larger number would have afforded, accurate work by one or two exact observers being preferable to that of many observers over a larger field, as lessening the personal error to which observations of the nature desired are so liable. The points which we considered to be most weighty in the statistics to be collected were height, weight, nutrition, mental condition, clothing, disease, and deformity, along with such other data as could readily be gathered without unduly prolonging the task of the Examiners.

106. The investigations were entrusted to Professor Matthew Hay, Aberdeen, and Dr Leslie Mackenzie, Edinburgh, and their reports are given in the Appendix. Appendix IX.

Medical Examiners' Reports.

107. We desire to record our indebtedness to these gentlemen for the full analytical reports which they presented to us, and our satisfaction with the care and minuteness which they bestowed upon the examination of the children, and the various circumstances influencing their development. The co-operation that subsisted between them in carrying out our request resulted in a harmony between the schemes of observing and recording, as pursued in the two cities, which enables the one to be satisfactorily compared with the other, and renders the joint statistics of both available for our enquiries.

108. The reports and tables bear intrinsic evidence of such care and exactness on the parts of Drs Hay and Mackenzie, and their mutual understanding as to methods and results has been so complete, as to convince us that any differences between them due to the 'personal 'equation' are not material. Whatever discrepancies exist between the Edinburgh and Aberdeen results are due, we feel convinced, to facts, not to inaccuracies.

Numbers examined.

109. The numbers of children examined, although not large, was sufficiently great to bear a sensible relation to those upon which our standard tables are based, and to permit of a just comparison with them; the grouping of the children into the three-yearly periods of 6–9, 9–12 and 12–15 ensures more accurate averages being reached in dealing with small numbers; while the selection of an equal number of each sex from each year of life guards against the importation of any great error into the estimation of averages.

Scheme of examination.

110. The general scheme of examination which was followed was, as has been already said, in the main that which was suggested by the Commission; but it is right to mention that the credit of working out the scheme on the lines presented in the reports is due to Drs Hay and Mackenzie, who supplied, further, a number of valuable points in addition to those demanded of them. They collected spontaneously a mass of additional information which will be valued by many, anthropologists and others. They also worked out many results in their tables and reports beyond those to which we have principally to refer. The materials gathered by them are such as can rarely be obtained, and deserve a close study, embracing, as they do, much beyond the more important features to which we direct attention.

111. So desirous were the Examiners of reaching all attainable accuracy, that several special original measuring instruments of superior delicacy and trustworthiness were devised by Professor Hay, and used by the Examiners in making their observations.

Representative nature of the observations collected.

112. Although the data collected by the Examiners did not exactly realise the expectation of the Commissioners, that a distinction could be drawn between urban and suburban schools, whereby we would be provided with information regarding the condition of town and country children in Scotland, inasmuch as such a distinction between the schools was found impracticable in Aberdeen, yet to some degree they did so, as Edinburgh permitted a comparison nearly approaching to this in the cases of the Bruntsfield School attended by children of a better class, and the North Canongate School attended by children from a very poor district. Further, when these Aberdeen schools, with a better class of children than in the metropolis, are compared with the Edinburgh schools, which embrace a lower class of children, inferences regarding the comparative condition of the school children of Scotland as a whole may, with considerable accuracy, be drawn. It may be assumed, with little if any risk of error, that the Aberdeen schools fairly represent the School Board children in Scotland generally, and can be contrasted with the scholars in the larger towns, such as Edinburgh, Glasgow and Dundee.

Edinburgh Report, Table I.⁂
Edinburgh, Table I.
Aberdeen, Table I.

113. With these explanatory general remarks, we proceed to draw attention to the details of the information conveyed in the Examiners' reports, selecting, however, only the points bearing most strongly upon our remit, and referring to the reports themselves for the other subjects of interest in which they are so rich.

Schools, housing, health and nutrition of children.

114. The idea suggested by the Examiners of obtaining information regarding the housing of the children has proved a fertile one. They ascertained the number of rooms inhabited by the family from which each child was drawn; and while all the school buildings, both in Edinburgh and Aberdeen, were ascertained to be at least fair in

⁂ *N.B.*—The Reports and Tables referred to in the margin will be found as follows:—
Edinburgh Report and Tables, Appendix IX., p. 76 *et seq.*
Aberdeen Report and Tables, Appendix IX., p. 101 *et seq.*

Tables I., Aberdeen and Edinburgh.*

respect of plan, ventilation, heating, etc., so that the manner in which each school influenced the condition of the children differed little, one from the other, it was otherwise with the houses where the children resided.

Aberdeen, Tables XIII. and XIV.

115. The number of the rooms furnished a good indication of the social status of the children. In Aberdeen, 'the balance, in respect of health and development,' was found to be 'in favour of children drawn from three- and four- (and upwards) roomed houses,' and that city, most of whose school children were drawn from three-roomed houses, had the advantage over Edinburgh, whose children were drawn mostly from two-roomed houses. 31·3 *per cent.* of the Aberdeen children lived in three-roomed houses, while in Edinburgh, on the contrary, the predominant number, 35·32 *per cent.*, lived in two-roomed houses. Indeed, of all the Edinburgh children, 45 *per cent.* lived in very small, *i.e.*, one- or two-roomed houses.

Aberdeen, Table I. Edinburgh, Table I.

Poor health. Tables III., Aberdeen and Edinburgh.

116. The ratio of health in both cities harmonises with these facts. Thus there are among all the children examined in Aberdeen, 0·5 *per cent.* in apparent poor health, while in Edinburgh there are 19·17 *per cent.*[1]

Bad nutrition. Edinburgh and Aberdeen, Tables III.

117. The same tale is told by the statistics regarding the condition of nutrition of the children. Aberdeen shows 9 *per cent.* of its children badly nourished, while Edinburgh shows 29·83 *per cent.*[2]

Edinburgh and Aberdeen, Tables II.

118. And, similarly, mental dulness was noted in 8·8 *per cent.* of the Aberdeen children, compared with 12·33 *per cent.* in Edinburgh.[3]

Aberdeen, Table III. Edinburgh Report, p. 77.

119. The same connection between housing and health is apparent in other ways, of which only the fact that in Aberdeen the 'thin' children are drawn in larger proportion from the poorer houses need be adverted to. The Examiners were so impressed by the intimate connection between housing and health, that Dr Mackenzie remarks that the inferiority in health is not due to defective schools, which are relatively more hygienic than the homes, and that the houses wherein the children live are reflected as to their quality by the height, weight, and nutrition of the children.

Edinburgh Report, p. 87.

120. We cannot doubt that the quality of the houses where the children live corresponds, among other adverse factors, with the quality of the food they receive, and assent to the justice of Dr Mackenzie's comment on the difference between the Bruntsfield and North Canongate schools (the best and worst of those examined in Edinburgh), where he remarks that 'among the factors that produce' this great deterioration among the children in the North Canongate School, 'housing and food must be regarded as the chief. Race 'can scarcely count for much.' The verdict is equally true of the difference between Aberdeen and Edinburgh. Race fails to have any apparent bearing on the matter, judged by the cephalic index, one of the most abiding signs of race. Edinburgh, with an index almost uniformly just over 78, should show, were race the chief cause, a less striking contrast between its schools than Aberdeen, where there is more uniformity of conditions among the children of the different schools, though the co-existence of unfused races is greater, as shown by the cephalic index, varying between 81·4 and 78·5.

Edinburgh, Table IV.

Aberdeen, Table X.

Height, weight and girth. Aberdeen, Tables X.–XII. Edinburgh, Tables IV.–VB.

121. An affinity exists between conditions of nutrition and health of body and mind, on the one hand, and measurements of height, weight and girth on the other. We are supplied with data regarding the latter in Tables X., XI. and XII of Aberdeen, and in Tables IV., V., VA., and VB. of Edinburgh, and they present a general correspondence with the incidence of the former which we have just discussed. The Edinburgh children are, throughout, much below those of Aberdeen in height and weight, and that to a somewhat startling degree. Perhaps the matter may be most readily focussed by saying, that while the Edinburgh *adult* man is 1½ (1·56) ins. taller, and 12½ (12·7) lbs. heavier than the *adult* male Aberdonian (Report of the Anthropometric Committee, Table III.), the Edinburgh average school child is 1·35 ins. shorter, and 4·97 lbs. lighter than the Aberdeen school child. This shows a serious deficiency somewhere in Edinburgh. The Aberdeen child (and both sexes and all ages from six to fifteen are included in all these computations) is 0·07 ins. taller than the average British child, but weighs 0·63 lbs. less. The British child stands 0·86 ins. less, and scales 2·3 lbs. less than the American child. The Edinburgh child is the worst of all four, being 1·28 ins. shorter and 5·61 lbs. lighter than the British standard. The facts may be given, in slightly greater detail, in the following table:—

[1] It may be noted that Mrs Sidgwick gives the proportion of apparent poor health in English college girls as about 11 *per cent.* App. III., No. 2.

[2] Against 3·52 *per cent.* of English school children, as shown in Dr Warner's Tables (or 4·03 *per cent.* of children of English nationality only). App. III., No. 6, § C, and No. 7.

[3] Dr Warner gives 7·39 *per cent.* for children in English schools, and 7·20 *per cent.* for children of English nationality. App. III., No. 6, § D, and No. 7.

* *N.B.*—**The Reports and Tables referred to in the margin will be found as follows:—**

Edinburgh Report and Tables, Appendix IX., p. 76 *et seq.*
Aberdeen Report and Tables, Appendix IX., p. 101 *et seq.*

Comparative Table of the Height and Weight of British, American, Aberdeen and Edinburgh School Children.

			British Population. Roberts.	Boston School Children. Bowditch.	Aberdeen School Children. Hay.	Edinburgh School Children. Mackenzie.	London School Girls, English. Mrs Bryant.
		Ages.	ins.	ins.	ins.	ins	ins.
Height,	boys	6–9	45·67	46·15	46·0	44·52	...
,,	girls	6–9	44·64	45·89	45·4	44·51	...
,,	boys	9–12	51·68	52·10	51·2	50·20	...
,,	girls	9–12	50·96	51·72	50·9	49·93	53·66
,,	boys	12–15	57·07	58·34	57·3	55·26	...
,,	girls	12–15	57·74	58·74	57·4	55·65	60·61
			lbs.	lbs.	lbs.	lbs.	lbs.
Weight,	boys	6–9	49·6	49·68	51·1	46·60	...
,,	girls	6–9	47·1	48·25	47·9	45·62	...
,,	boys	9–12	66·6	66·32	64·0	59·53	...
,,	girls	9–12	61·8	63·95	60·9	57·76	...
,,	boys	12–15	83·7	89·12	84·5	74·02	...
,,	girls	12–15	86·7	90·95	83·3	78·36	...

122. No great amount of argument is required to bring home to everyone the significance of such facts as these. Height, weight, pallor, bad health, bad nutrition, want of alertness, and bad carriage, besides other conditions not noticed here but dealt with in the reports, distinguish Edinburgh adversely throughout as compared with Aberdeen, and even Aberdeen, which probably is fairly representative of Scotland generally, as compared with the standard of the British Islands, leaves something to be desired. Edinburgh and Aberdeen, Tables III.*

123. There seems no possible way of impugning the validity of these data. Some differences in the manner of collecting the facts or of making the measurements no doubt exist among different observers and authorities. The Anthropometric Committee, for instance, weighed with shoes on, our Examiners without shoes. It is also well known that no two examiners, however skilful and conscientious, will ever obtain exactly the same results; but, after making all possible allowances for those and other sources of error, there clearly exists a stratum of degeneracy in Edinburgh not reached in Aberdeen; and if Edinburgh be taken as a type of Glasgow and such towns, and Aberdeen as a type of the healthier towns and country districts of Scotland, the true state of school children in Scotland will be found to have been gauged with a near approximation to the truth. The more Drs Hay's and Mackenzie's reports are studied, the more they are found to present a harmonious mass of diverse observations of the most varied nature, all pointing in the same direction.

124. The question of race, as bearing on the Examiners' reports, has been carefully considered by the Examiners themselves, and likewise by us. Statistics were collected regarding the colour of the hair and eyes, and measurements of the skull with calculation of the cranial indices were made in both cities. They revealed more complete amalgamation of races in Edinburgh, signs of purer unfused races being more prevalent in Aberdeen, where there were greater variations in the cranial indices, which are, as already mentioned, one of the most permanent and reliable race signs. **Race.** Aberdeen, Table V.; Edinburgh, Table VII. Aberdeen, Tables X., XI., XII.; Edinburgh, Tables IV., V., Va.

125. Our attention was directed to the subject of progressive deterioration of the town inhabitants of our islands by a section of the Report of the Anthropometric Committee (§§ 65, 66),[1] and by the evidence of Mr James G. Legge, and others. The figures and facts bearing upon it are few. We are not called upon to arrive at a decision as to whether or not there exists a progressive deterioration of the slum population of Great Britain or of the inhabitants of its large towns as a whole. It is enough that we find, by comparing the statistics of Aberdeen and Edinburgh, and quite as much by comparing those of the better with the poorer schools in Edinburgh itself, evidence that, whatever may be the case with the population as a whole, there exists in Scotland an undeniable degeneration of individuals of the classes where food and environment are defective, which calls for attention and amelioration in obvious ways, one of which is a well-regulated system of physical training. **Degeneracy.** Mr J. Cantlie, 5705–811. Appendix I.

[1] Appendix VII., p. 71.

* *N.B.*—The **Reports and Tables referred to in the margin will be found as follows:—**
Edinburgh Report and Tables, Appendix IX., p. 76 *et seq.*
Aberdeen Report and Tables, Appendix IX., p. 101 *et seq.*

Edinburgh Report, p. 87.*

126. Dr Mackenzie's remarks on social selection are worthy of attention, and his observations on the feeding and clothing of school children in Edinburgh are of an importance which it would be hard to over-estimate. We believe that the same Examiner touches appositely the effects of the degeneration which is going on, when he says that children ill-nourished and over-stimulated are older in experience than years, extremely alert but not very continuous in attention, and are better adapted to the casual life of the street than to the persistent system of school discipline.

Edinburgh Report, p. 80.

Disease among school children.

127. A large part of our attention was directed towards ascertaining with certainty what diseases and deformities exist among children at school years, and the report of our Examiners in Edinburgh and Aberdeen were of service in providing us with definite information regarding this matter, in respect of those attending Scottish elementary schools.

Vigour of growth

128. In analysing these reports, attention naturally turns in the first place towards any signs that may indicate the degree of vigour of growth possessed by the Scottish child, and one point only among those that they contain can, we conceive, be used as a means of measuring this—viz., the date at which the teeth appear above the gums. The successive eruptions of the various teeth are the milestones, as it were, by which nature marks the progress of the individual's struggle towards the attainment of full growth. Contrary to what might have been anticipated, the children of Edinburgh are ahead of those of Aberdeen in this respect, exhibiting a percentage of only 7·45 of delayed dentition, as against 18·7 in the latter city. We do not obtain any explanation of the strange fact that the Edinburgh child, in the race towards maturity, is ahead of his taller and weightier brother in Aberdeen. Possibly it may be connected with the well-known tendency, witnessed both in plants and animals, of an individual living under conditions adverse to his survival in the struggle for existence, to hurry through the stages of a short and stunted life towards a precocious brief period of maturity.[1]

Edinburgh, Table VI. Aberdeen, Table IV.

Vulnerability of constitution.

129. Next in order to engage the attention comes the power of the constitution to resist enfeebling diseases, as tested by the prevalence of tuberculosis and such similar ailments as fasten by preference on those who are naturally or artificially below the average of strength.

130. Selecting these ailments from the reports, we find the following *percentages*:—

Percentage of children affected with—	Aberdeen.	Edinburgh.
Diseased glands (mostly tubercular)	2·0	18·5
Nose and throat disease	30·0	52·54
Lung disease	1·8	3·0
Heart disease[2]	1·0	4·33

Abdn., Table IX. Edin., Table XI. Abdn., Table VIII. Edin., Table X. Abdn., Table IX. Edin., Table XI. Abdn., Table IX. Edin., Table XI.

Glands.

131. Dr Mackenzie, on the subject of diseased glands, remarks that tubercular glands are common, and are most numerous in the poorest Edinburgh schools, and fewest in the best. It is only necessary to add that it is chiefly through the channel of these glands that tubercle enters the system.

Edinburgh Report, p. 95.

Throat disease.

132. The great prevalence of nose and throat disease is of importance. About one-half of the cases of throat disease were naso-pharyngeal adenoids, which impede physical development, retard growth, produce mouth breathing and the dangers which it entails, and lead to deafness and ear disease.

Edinburgh, Table X. Aberdeen, Table VIII.

Lung disease.

133. Although lung diseases furnish a comparatively small percentage, yet their total, as inferred from the results of the limited number of children examined, must be very considerable, and their very serious import is familiar to every one. Dr Mackenzie states that they alone prove the need of systematic medical inspection, as he found children suffering from phthisis undergoing serious physical exercises even in the best of the Edinburgh schools which he examined.

Heart disease.

134. Heart disease, whose grave consequences are well known, was found in a relatively small, but absolutely large, number of cases.

135. From the remarks of both Examiners we learn that both unsuspected phthisis and valvular heart disease form a sensible danger among school children both in Edinburgh and Aberdeen, and that probably more of each existed among the children examined than was discovered.

Edinburgh Report, p. 97.

[1] The large numbers of the children in both towns who present decayed teeth is remarkable, but the bearing of this upon Physical Education is an indirect one.

[2] Dr Warner gives the percentage of English school children affected with heart disease as being 0·001. App. III., p. 50.

* *N.B.*—The Reports and Tables referred to in the margin will be found as follows:—

Edinburgh Report and Tables, Appendix IX., p. 76 *et seq.*
Aberdeen Report and Tables, Appendix IX., p. 101 *et seq.*

136. We remark with satisfaction that diseases of bones and joints were found in both cities in smaller numbers than might have been looked for. They existed as below :— **Bone and joint disease.**

	Edinburgh.	Aberdeen.
Bone disease	2·17 per cent.	3·0 per cent.
Joint disease	0·17 „	0·2 „

137. The next subject that calls for comment is the class of diseases which, while not so much menacing the life of the individual child, interfere seriously with his capacity for receiving mental, and likewise impair his power of acquiring physical, training. These are diseases of the eyes and ears. They were found to be present in the following percentages :— **Eye and ear disease.** Edinburgh, Tables VIII. and IX.* Aberdeen, Tables VI. and VII.

	Dr Warner, English Schools.	Prof. Hay, Aberdeen Schools.	Dr Mackenzie Edinburgh Schools.
Diseases of refraction of eyes interfering with vision .	...	23·9	31·67
Diseases of eyes and eyelids	2·92	12·2	15·5
Diseases of ears causing defective hearing . . .	...	14·0	42·04

138. Of these we need only remark that, from children whose eyesight is defective and not corrected by appropriate lenses, or whose hearing is impaired, good work, mental or physical, can hardly be expected. The number of children with defective hearing is surprisingly large.

139. The number of cases of catarrh of the eyes (conjunctivitis and blepharitis), about ·5 *per cent.* in each city, is not without its lesson, as such diseases are capable of being spread by contagion.

140. Last among the classes of disease concerning which we are provided with data by the Examiners are those physical disabilities which, interfering little, if at all, with mental training, yet form a factor in the enquiry into physical training which we should not be justified in overlooking. **Diseases, etc., interfering with Physical Training alone.**

Such are deformities—congenital and acquired—ruptures, rickets, and the like.

141. We learn that in Edinburgh there were 10 cases of acquired deformity, or 1·67 *per cent.* Edinburgh, Table XI.

142. In Aberdeen we are informed that there were 5 cases of hernia, 2 cryptorchides, 2 flat-feet, 4 curvatures of the lower limbs, 7 cases of rickets, and 1 badly united fracture; 21 in all, or 3·5 *per cent.* Aberdeen Report, p. 110. Aberdeen, Table IX.

143. Relatively these numbers are small; but if the same average be maintained, they will amount to 500 cases in Edinburgh and 875 in Aberdeen of children requiring 'special-care' in physical training. If to these be added the 4·33 *per cent.* of heart and 3 *per cent.* of lung cases in Edinburgh, and in Aberdeen the 1·0 *per cent.* of heart and 1·8 *per cent.* of lung diseases, and perhaps the bone and joint diseases as well, the total will work out above Dr Warner's[1] estimate for England of 0·811 *per cent.* of special care children.

144. The prevalence of disease among the school children in the cities of Edinburgh and Aberdeen is scarcely fully realised when attention is fixed upon percentages alone. A re-statement on other lines may be helpful in bringing out fully the conditions which have to be dealt with. If the ratios observed by the Examiners be admitted, and it may be gathered from their reports that they did not overstate the case, there are in Edinburgh Board Schools 700 cases of unrecognised phthisis and 458 in Aberdeen, and 1300 cases of unrecognised heart disease of a dangerous nature in Edinburgh and 250 in Aberdeen. Of lesser ailments there are in the Edinburgh schools 15,000 children affected with disease of the throat and 7580 in Aberdeen, and 12,000 cases of ear disease in Edinburgh and 2250 in Aberdeen.[2] **Bearings of the Aberdeen and Edinburgh Reports on the question of Medical Inspection.** Edinburgh Report, p. 100.

145. Of ailing children in the Edinburgh schools there is, even if only half the number of those reported be computed, a total of 10,500, and in Aberdeen 5708, all of whom are in need of medical attention.

146. Perhaps the most striking evidence that was laid before us in support of the absolute necessity of a better medical supervision of school children is the statement contained in the Edinburgh Report, that out of the total of 299 male children examined in Edinburgh, 259 showed some defect, however remediable, of the ears or throat, and that out of the 298 female children examined, 294 showed the same condition of disease. Edinburgh Report p. 93.

[1] His scheme of examination, however, probably entails his figures being under the truth.

[2] The total school children of Edinburgh and Aberdeen are taken as being 30,000 and 25,000 respectively. (See Vol. II. Minutes of Evidence, Miss Stevenson, Q. 2287; Mr Craigen, Q. 3058.)

* *N.B.*—The Reports and Tables referred to in the margin will be found as follows:—

Edinburgh Report and Tables, Appendix IX., p. 76 *et seq.*
Aberdeen Report and Tables, Appendix IX., p. 101 *et seq.*

Bearings of the Aberdeen and Edinburgh Reports on Physical Education.

147. The state of Edinburgh as regards its school children is so much worse than Aberdeen that it is from the former chiefly that comprehensive deductions regarding the nature and limitations of physical training must be drawn. The present system of physical education is, in the face of the facts presented, quite unsatisfactory, as shown, for example, by Dr Mackenzie's note that 'excessive strain' coincides with the largest proportion of heart affections in the London Street School, where Sandow's system is taught, and by his very proper reflection that, 'when the selection is left practically to the wish of 'the pupil, or the parent, or the superficial inspection of the teacher, or the Code standard 'in which the pupil is studying, the danger of damage is not to be disregarded.'

Edinburgh Report, p. 79.

148. We are impressed with the weight of the evidence here set forth in regard to the number of children in Scottish schools—in the aggregate a very considerable quantity—whose conditions of health warrant us in drawing particular attention to the precautions that it is necessary to take in perfecting a system of Physical Training. Foremost among such precautions we hold that provision should be made for regular Medical Inspection of the children in all Schools.

149. We consider that it is highly desirable that an investigation similar to that conducted in Edinburgh and Aberdeen should be undertaken at an early date among the school children of Glasgow, in order that, along with those of Edinburgh and Aberdeen, its results may lay the foundation of a statistical medical census of Scotland.

VI. MEDICAL INSPECTION.

150. The defects to which we have alluded in connection with the medical data now available point to a very serious defect in our school organisation to which we desire to call special attention. This consists in the absence of any general or adequate system of medical inspection. Such a system is urgently demanded mainly for remedial objects, but also in order to make available information of the highest value both for ascertaining the facts of national physique and the means that may be adopted for its improvement, or for retarding such degeneration as may be in progress.

151. It is impossible to get beyond mere guesswork except by a steady and continuous collection of facts, and the only feasible way of getting at such facts is by weighing and measuring and carefully estimating the conditions as to health or disease, and the development and growth or decay of school children. It is only at this age that a complete examination of the population can be obtained; and for the pupils themselves, as well as for the nation, as a whole, it is of vital importance, as is shown in Part V., page 21, of our Report, that this opportunity should not be lost.

152. But there are other objects to be gained by such medical inspection. No uniform rules appear to prevail as to the granting of medical certificates of illness; as to the detection of infectious diseases and the adoption of the most efficacious means for arresting the spread of such diseases as affected by school arrangements. It is only by skilled medical inspection that defects in the organs of sight and hearing, or in mental development, or such physical weakness or state of nutrition as may demand special treatment in connection with school work can be detected. We feel convinced that some of the prevailing defects in health and physique might be very materially mitigated, if not removed, by a little timely attention, and by the careful inculcation of some simple rules of health and of the proper means of conserving physical strength and of developing physical faculties, which are now too often completely neglected or ignored. These must be taught early, if they are to become matters of habitual practice.

153. We think that sanitary inspection of a thorough and careful kind beyond what exists at present is called for. This is urgently necessary in regard to a matter to which we think it right to call special attention, viz., the too frequent neglect of the proper ventilation of schoolrooms. It is often found that, even in large and well-constructed rooms, the atmosphere is allowed to get into a condition that must be detrimental to health, and this is much more marked where the schoolrooms are inadequate to the attendance, and where they are not provided with proper means of ventilation. The question of ventilation is a difficult one, and sometimes it is found that the most modern and carefully constructed systems are not satisfactory in operation, owing to the want of expert skill on the part of those in charge of them. But it is at least certain that, while ventilation of a fairly satisfactory kind may be provided for in any properly constructed school at a comparatively moderate expense, this must be combined with proper methods of heating. Where a schoolroom is not sufficiently heated, it is plain that on a cold day, windows, and indeed every aperture by which air is normally admitted, are kept almost hermetically closed, so that good ventilation is practically impossible.

154. Defects of this kind are, we understand, carefully observed by the Inspectors on their visits to schools, and form the subject of very frequent comment and criticism. Such criticisms produce a certain effect; but it must be remembered that these visits are only occasional, and that the matter is one which requires constant care and watchfulness. The fact is indisputable, however, that even in schools constructed at great expense, and with what are considered to be highly efficient systems of ventilation, the atmosphere in which teachers and scholars spend so many hours each day is not such as can be considered consistent with healthy conditions. This can only be remedied by the exercise of constant vigilance on the part of school managers, upon whom the primary responsibility rests. We are also of opinion that much will always depend on the watchfulness of the headmaster, and it may be reasonably expected that, as questions of school Hygiene come to be more generally regarded as forming an important part of a schoolmaster's training, such matters will be more and more studied, and the teacher will realise more fully than the average master or mistress of a country school does at present, that by neglecting the proper ventilation of a classroom, he is endangering his pupils' health, and that attention to such a matter is as essential a part of his functions as the imparting of knowledge or the enforcing of school discipline.

155. We also desire to call serious attention to the too frequent neglect to keep the latrines and offices of the schools in proper order, and to have them regularly cleaned. 'Too many teachers,' we are told, 'seem to regard extra-mural decency as beyond their 'province.'

156. We are informed that managers in the rural districts leave the matter, as a rule, in the hands of a local tradesman, who may have no qualification for measuring the proper standard of cleanliness and propriety. This is a matter in which very great improvement is urgently demanded, and its influence upon the general tone, as well as the health, of the pupils is obvious.

157. We think, therefore, that school authorities should have better means of obtaining adequate medical assistance in connection with their work.

158. We suggest that the medical officers of burghs and counties should, where their services can be obtained, act as referees and consulting officers to whom the School Boards within the area should be able to resort for advice in regard to special difficulties; and that, where this is not the case, special officers should be appointed for the purpose. They should receive reports from local medical officers, and, if necessary, call the attention of the school authorities to any striking features in these reports. Their remuneration might take the form of a retaining fee proportionate to area and population, perhaps not exceeding £100 a year; and in our opinion it ought to be borne by Imperial funds.

159. Next, it should be the duty of the district medical officers to visit and report upon all the schools in their district, being remunerated by a certain fee for each school proportioned to the number of scholars. They should certify as to the school being closed or re-opened on account of infectious illness: should decide on the questions that emerge in cases of infectious disease in particular children: should furnish the certificates required in the case of children withdrawn from school: and should prepare statistical reports upon the physical condition of the pupils of the schools. They should be in touch with the school authorities, and should be paid by these authorities, although we think that a certain grant in aid of such remuneration should be paid out of the Parliamentary Vote. They should also report on special points, as occasion may require, to the county medical officer.

160. Lastly, we think that great assistance might be given to the school authorities by the appointment, to serve under the Education Department, and as supplementary to the present inspecting staff, of a certain number of Sub-Inspectors, to make occasional visits to the schools for the purpose of examining their sanitary conditions, and the health and cleanliness of the scholars. The assistance of women might often be useful in this work, so far as it regards the girls and infants, and the effect of physical training in their case.

VII. FEEDING.

161. We consider that the question of the proper and sufficient feeding of children is one which has the closest possible connection with any scheme which may be adopted for their physical, and equally for their mental, work. It is evident that among the causes which tell against the physical welfare of the population, the lack of proper nourishment is one of the most serious. The subject demands special notice, not only as regards the existing state of affairs, but still more in view of any increase of physical training throughout the State-aided schools which may commend itself.

Mr Struthers, 123. Mr Scougal, 1754. Miss Stevenson, 2390. Dr Wm. Bruce, 5401. Prof. Hay, 6802. Dr L. Mackenzie, 7167.

162. A large number of important witnesses, members of the medical profession, Inspectors of schools, representatives of School Boards, teachers, and others, were questioned on this subject. They were unanimously of opinion that it was most desirable that increased attention should be paid to the feeding of children attending the State-aided schools. We entirely endorse that opinion, but, before indicating the course which we recommend, we think it right to point out some of the difficulties surrounding the general question.

163. We are aware that School Boards, as a general rule, have no power at present to deal with this question. They have no power to spend money from the school fund upon food, clothing, or lodging. Even if they make themselves the agents for supplying these, they act as a voluntary body, and not strictly under their statutory powers. There are, however, certain exceptions. School Boards may pay for board and lodging for blind, or deaf and dumb, children. Under the Act of 1872 (35 & 36 Vict. c. 62) they may establish Certified Industrial Schools, but they have never done so. Under the Act of 1893 (56 & 57 Vict. c. 12) they may establish Day Industrial Schools, and we have seen such a school in Edinburgh doing admirable work. Under the latter Act they can also contribute to a Certified or Day Industrial School and to the maintenance of any inmate of such school.

164. But we have had here to consider a serious difficulty. The lack of power in the hands of School Boards might easily be supplied by the extension of such agencies as the Juvenile Delinquency Board in Glasgow, which acts under a special private statute, and whose good work we saw at the Mossbank Industrial School for boys. These institutions certainly give to boys or girls who come under their influence advantages as regards physical conditions which are not open to the children of independent and respectable though very poor parents. The contrast between the condition of such children as seen in the poorest day schools and the condition of the children of parents who have altogether failed in their duty as seen in the 'Empress' Training-Ship, at Mossbank, and in similar institutions where sufficient feeding and physical training is given, is both marked and painful.

165. The powers of School Boards might, no doubt, be increased in the direction of establishing a system of better feeding, but this raises serious questions. It is matter for grave consideration whether the valuable asset to the nation in the improved moral and physical state of a large number of future citizens counterbalances the evils of impaired parental responsibility, or whether voluntary agency may be trusted to do this work with more discrimination and consequently less danger than a statutory system.

Mr Legge, 761.

166. Another remedy has been proposed, namely, that some simple fare—adequate to health—should be provided, and that parents should be compelled, in the absence of evidence that their children do otherwise obtain necessary sustenance, to pay something in the nature of a fee for that food, with the alternative of applying to the Poor Law authority (as they formerly did in respect of school fees) when they could not pay. Such a system would, of course, require legislation.

167. We are aware of the danger of further encroaching upon the independence of parents, and of entering upon the wide question of how far the State should go in relieving them of their primary responsibility. But we are not on that account deterred from calling attention to the necessity for better feeding, which, in our opinion, has been fully demonstrated, nor from considering a practical remedy. We have no desire to give encouragement to any inclination of the parent to abandon any of his duties and responsibilities in regard to the feeding and clothing of his children; but it must be remembered that, with every desire to act up to their parental responsibility, and while quite ready to contribute in proportion to their power, there are often impediments in the way of the home provision of suitable food by the parents. The proper selection, cooking, and preparation may often be matter of serious difficulty to many parents. It would be in many cases an inestimable advantage could regular and sufficient meals—such as broth, porridge and milk, or bread and milk—be provided at a minimum cost. The preparation and cooking of these meals, where it is found necessary to provide them, ought to be regarded as one of the charges incident to school management.

168. In like manner we think that an obligation for the proper supervision of the feeding of those who come for instruction should be regarded as one of the duties of school authorities, and that teachers should be instructed to take note of all children apparently ill-fed. Unless children receive sufficient nourishment, they cannot be expected to profit by the mental or physical training provided for them.

Miss Stevenson, 2390. Mr G. W. Alexander, 2951. Mr Craigen, 3194.

169. We were informed by some of the School Board representatives, notably from Edinburgh, Glasgow, and Aberdeen, that in these towns the Boards co-operated in this matter with philanthropic agencies, and caused enquiry to be made, so that practically most of the necessitous cases were relieved.

170. In another case, that of a country district, where the children of the ploughmen and

farm labourers were the poorest, a system of providing broth and bread at the school during the five winter months was carried out, with the approval of the parents. A small charge was made to cover the cost. We believe that similar attempts have been made elsewhere with much success, and we do not see why they should not generally prevail. Mr Turnbull, 4659.

171. We also had the advantage of hearing the evidence of a member of the London School Board, who informed us that they recognised it as their duty to see that the children were fed, but not at the expense of the rates. For this purpose the Board appointed a special Under-Fed Children Sub-Committee, which was in touch with the various voluntary agencies, with the result that, as we were even assured by the same witness, there are now practically no cases of under-fed children attending the London Board Schools. But we are entirely of the opinion, frequently expressed by many of the witnesses, that any scheme for the provision of meals, either for necessitous cases or as a matter of convenience, should be voluntary or self-supporting, and not fall upon the rates. Mr Bridgeman, 3765–3771. Mr Lobban, 1159. Mr J. L. Robertson, 1619.

172. Accommodation and means for enabling children to be properly fed should, we think, be provided either in each school or in a centre; but, except a limited sum to provide the necessary equipment, no part of the cost should be allowed to fall on the rates. There are few or no districts where concerts or other entertainments by the school children could not be successfully organised to raise funds to meet any deficiency. Dr Wm. Bruce, 5404.

173. In this connection we are fully sensible of and thoroughly appreciate the good work which has been accomplished by individual enterprise and voluntary effort; and we strongly recommend that there should be hearty co-operation between the voluntary agencies and School Boards.

174. If the steps we have indicated, as in our opinion at present advisable, fail to effect a substantial improvement, we consider that some compulsory powers, if necessary, should be obtained for the purpose of dealing with parents on the ground of neglect, whilst, if the cause be poverty, recourse should be had to the parochial agencies of poor relief.

VIII. A NATIONAL SYSTEM OF PHYSICAL TRAINING.

175. The introduction of a fully-organised system of physical training into the State-aided schools of Scotland involves a new set of conditions and new methods of dealing with them. Unlike mental training, physical training has not been formed into a well-arranged system by the results of centuries of experience. Springing up in recent years, it has elicited a series of systems and theories, each of which is as yet imperfect or insufficiently tested. At the point which we have now reached these have to be sifted and analysed, so that out of each may be selected that which has most approved itself; and the defects of each have to be avoided, if the youth of the country are to receive the fullest benefit of an improved physique, and if harmful results are not to ensue. It is admitted that physical training may, if unsuitable or badly taught, be injurious to the young, that some exercises are unfitted for both sexes at certain ages, and that special weaknesses or defects may be aggravated if exercises are improperly carried out; but, on the other hand, even weakly or ill-formed children may receive the greatest possible benefit from physical training carefully devised.

176. The various systems brought to our notice are as follows:—

(1) *The Swedish System*, admirable in theory, and nearly perfect in its adaptation of certain exercises to attain certain results, is stated to be defective, inasmuch as it is exhausting, and tends to 'staleness' if thoroughly carried out, and its lack of interest and variety renders it unsuitable as a system to be pursued throughout nine years of school life. But selected exercises from it should form part of a wider and more varied whole. Mr A. Alexander 8924A, 8939. Dr Kerr, 6118. Dr Warner, 7292. Mr Sandow, 7489. Mrs Bryant, 8674. Mr Seymour, 10,942.

(2) *The German System* is said to be remarkable for the development of ambidexterity, which proves valuable in many trades after school life. Objections taken to it are its abnormal development of muscle and non-athletic tendency, and that it requires the use of heavy apparatus. Mr A. Alexander, 8952. Mrs Bryant, 8662, 8674.

(3) *The Swiss System* has many good points. It aims at skill and activity. Children while at practice sing Tyrolese songs, and its advocates assert that it gives refreshing mental rest after school study. One witness, however, attributed the high rate of heart disease in Switzerland to the use, by the elder boys, of too heavy staves while undergoing the training. Mr A. Alexander, 8966. Mr Pressland, 14,102.

(4) *In France* there have been frequent changes of system. After the war of 1870 French physical education took the form of gymnastics and military exercises. A full account of the French systems and their results will be found in the evidence of a witness who has made them a special study, and who has had practical experience both of Lycée and University life. A brief summary may be noted here:—gymnastics with apparatus Mr A. Alexander, 8974. Mr Cloudesley Brereton, 9628 *et seq.*

were everywhere rendered obligatory, and the movements in favour of military drill culminated in the creation of military cadet corps in the schools, both primary and secondary. But these cadet corps, known by the name of *bataillons scolaires*, after a brilliant beginning, fell into discredit, and the last of them was suppressed in 1890. The causes of failure seem to have been (*a*) the cost, which was out of all proportion to the results obtained; (*b*) many of the results were unsatisfactory—for instance, the children affected the manners and language of the drill-sergeants, and imported into the playground the phraseology of the barracks, until the deterioration in the manners of the children set the teachers against the system; (*c*) the regular officers also became hostile, for they found that the too early specialisation for the child was a bad preparation for the recruit. For a time, private gymnastic societies flourished, and were recruited mainly from the primary schools, but these aimed less at the increase of the respiratory powers than at the formation of muscle by exercises with apparatus. The system pursued by the private societies is gradually giving way to the *Gymnastique raisonnée*, which is now being adopted both at the school for military instructors at Joinville le Pont and by the primary schools. It is founded on the Swedish plan. British games and sports, it may be added, are finding an increased number of admirers in France.

Mr A. Alexander, 8986–7. General Chapman, 9275. Col. Fox, 7904–5.

(5) *In America* each State has its own system; many are of great variety and excellence. One witness, however, deposed to having observed in them an undue predilection for 'records.'

(6) *Sandow's system*, valuable as it is stated to be for adults, involves an amount of concentrated attention which does not recommend it for the use of children; but some of the movements, notably the breathing exercises, as we saw them practised at the London Orphan Asylum, produce very good chest development, and may well be incorporated in a model system.

177. *A system of military drill*, pure and simple, is, of course, unfitted for small children. Some kind of drill, however, must of necessity form the basis of any training applied to a number of persons, whether adult or young, in order to move them, or to exercise their limbs and bodies, in concert.

178. A number of *Manuals* of school exercises, used in different schools in England and Scotland, have been brought to our notice, and they contain much that is valuable.

179. The skilful selection of the best methods from all the above, so as to obtain a system capable of being modified to meet the needs of (*a*) the very young, (*b*) the boys and girls between nine and twelve, (*c*) the boys over twelve, (*d*) the girls over twelve, and (*e*) the weaklings, delicate, ailing, and deformed, demands the most careful and practical consideration.

180. To this end we recommend to the Education Department for Scotland the appointment of a Committee, which should include persons specially conversant with educational questions as well as others well acquainted with the various systems of physical training (including some who have studied what is most suitable in the case of girls), and medical experts, who shall, under the auspices of the Education Department, prepare a model course containing exercises adapted to the requirements of the differently situated schools, and the different ages, sexes, and conditions of health of the school children in Scotland.

181. In making this recommendation we have no desire to evade the duty of defining what we believe should be the groundwork of a National System, viz.:—

(1) Physical training should be regarded as of equal importance with mental training.

(2) During school life physical training is quite as important for girls as for boys.

(3) Systematic physical training is necessary both for country and town children.

182. The daily walk to school is exercise, but not exercise which develops the body as a whole, or counteracts the liability to stoop, to be round-shouldered, or to be slovenly in gait. Moreover, all children during school life must spend many hours with little change of position, the effects of which can only be corrected by systematic physical exercises.

Dr Stewart, 245. Mr Scougal, 1717. Dr Kerr, 6101. Dr Savill, 6897.

183. It should aim at the healthy development of the body as well as of the mind, by the regular development of all the muscles, the quickening of intelligence and activity, and the formation of habits of prompt obedience, precision, smartness, and discipline. The exercises should not be for mere display or entertainment, but each should have its particular purpose and value to duly develop all parts of the body.

Sir L. Brunton, 480. Prof. Hay, 6760. Dr Dukes, 8117.

184. A certain amount of physical exercise once a day or oftener is preferable to an even greater amount at longer or irregular intervals.

185. Music should be introduced, but it should be clearly understoood that, except in the infant classes, no music is to be used until the scholars have fully mastered the exercise without it. There was some conflict of evidence on this point, but this, we think, is the sound rule to lay down. Waving the arms about in good time may look well enough, but without precision the real value of the exercise is lost. This is sure to be the result, unless each exercise be learned without music.

Dr Kerr, 6113. Mr A. Alexander 9002.

186. We deprecate the use of rifles or carbines for boys under fourteen. Many boys can use the latter without ill effects, but the advantages of exercising boys with such weapons do not outweigh the risk of injury to some boys. Besides the use of the usual light dumb-bells and clubs, sufficiently good results can be obtained with light staves or dummy guns.

187. Applied Gymnastics, *i.e.* gymnastics with fixed apparatus, may be considered as outside the necessary curriculum of physical training in elementary schools, but they need not be excluded from schools where the teacher desires to introduce them and where efficient supervision is assured. For older boys they form a good safety-valve for working off superfluous energy, and, if made popular, are attractive to many who might not otherwise be induced to take sufficient healthy exercise.

188. Games are very useful, and certainly ought to be encouraged, but they cannot be played by all children, and usually the weaker go to the wall; in other words, those most in need of systematic development are excluded. Games, in affording opportunities for violent exercise, are useful for the development of reserve strength, and form an admirable field for the cultivation of social and public spirit. We strongly favour their organisation and development at all schools; see *supra*, Part II. (1) § 14; and Part III. § 86.

Sir L. Brunton, 538. Mr Legge, 813. Dr Tuke, 1306. Mr Scougal, 1717. Dr Kerr, 6059. Mr C. Brereton, 9628.

189. It is unnecessary to enumerate the games that are suitable for boys, but it may be noted that, in addition to regular games, country runs, leaping, and dancing the Highland fling have been recommended to us; and for girls, skipping and hockey. For both boys and girls swimming[1] is strongly advocated.

Mr Legge, 747–9

190. The attention of parents and all who are responsible for the care of children is directed to evidence dealing with the following, viz.:—

(1) Clothing which fits too tightly is obviously detrimental to chest expansion; and

(2) Tobacco smoking before maturity is reached has a most prejudicial effect on physical development, and this evil and increasing practice cannot be too strongly denounced.

Mr Noble Smith, 6488, 6495. Prof. Hay, 6709. Mr Sandow, 7362. Dr Milne Murray, 10,215. Mr J. Macpherson,

Mr Porter, 10,847. Mr Macnee, 11,683. Dr Kerr, 6059, 6080. Col. Napier, 8320 *et seq.* Dr Almond, 9846. 10,760. Mr Lyons, 13,332.

IX. TRAINING AND QUALIFICATIONS OF TEACHERS, AND INSPECTION.

191. We hold that if the physical training is to be satisfactory it should be given by one who is properly qualified for the work by having gone through some systematic course, and whose qualifications are guaranteed by the possession of a certificate granted under the authority of the Education Department, and upon clearly-defined conditions. For the purpose of applying the necessary tests in connection with the granting of a certificate, we think that it is essential to employ the services of a fully-qualified expert. It seems undesirable that the certificate or diploma of private institutions should be accepted as a sufficient test. However great the efficiency of some such institutions may be, there must always be a danger that they should be tempted by competing institutions to lower their standard; and this can only be provided against by requiring that the Department, through its appointed representatives, shall always be associated with the granting of a certificate, and shall have a controlling power in regard to the qualification for earning a grant from public money. The Code now requires that in all State-aided schools there shall be adequate physical exercise according to an approved system, and a higher scale of grant is conditional upon the arrangements for such instruction being satisfactory. But, in addition to this, we think that no physical instruction can be considered satisfactory, in a State-aided school, which is not carried on by someone possessing such a certificate. The question of Physiological and Hygienic knowledge is of great importance, but is already referred to in Part II. (3), § 26.

192. On the other hand, there is a general consensus of opinion that, wherever it is possible, this instruction should be carried on by members of the school staff. In large schools, where the work is varied and where the numbers permit of its subdivision, the physical instruction may no doubt be carried on by someone specially employed for the purpose. But even in such a school, we consider it to be very important that members of the ordinary staff be associated in the work, and have sufficient special qualification in this subject to be able, occasionally and as a variation from their usual work, to put any class which may be under their care through some of the simpler forms of drill.

[1] Dr Tuke, 1469 *et seq.* Mr Scougal, 1717. Mr Burrows, 2275–6. Mr J. Mackenzie, 4948. Dr Kerr, 6059. Mr Noble Smith, 6488. Prof. Hay, 6709. Dr Dukes, 8124. Dr Lowe, 11,324. Mr Peacock, 11,622 and 11,631. Mr Lyons, 13,332.

193. But in the greater number of schools, where the teacher is single-handed, or has only a small staff, it will be necessary that he himself be possessed of the necessary qualifications. At present the ordinary teachers do not, except in rare instances, hold a certificate such as we contemplate, and may not be in a position to obtain one. Due allowance must, of course, be made in such cases; and for this purpose temporary provisions analogous to those with regard to qualification for teaching Drawing, Nature-Knowledge and other special subjects under the Code might be adopted. Teachers under forty years of age should have every opportunity for acquiring the necessary qualification, and be expected to make proper use of these opportunities. Only in the case of older teachers, and those in whose cases special difficulties appear to exist, ought exemption from this condition to be granted. Eventually, we have no hesitation in recommending that the presence on the school staff of a sufficient number of persons qualified by a certificate of efficiency for giving physical training should be an essential condition of the payment of grants to a State-aided school.

194. There remains a question of some difficulty. Ought the possession of such a certificate of qualification to give efficient physical instruction to be required in the case of every teacher employed in a State-aided school? Such a requirement is no doubt desirable, and may well be aimed at as ultimately a universal essential. The single teacher of a small school must certainly possess such a certificate. It is evident, also, that the acquiring of such a certificate cannot be a matter of serious difficulty to young men and women of good health, of the type which it is most desirable to attract into the ranks of the teaching profession. We trust that, without any undue demand upon those desiring to enter the teaching profession, it may be possible to make this an essential qualification. We have had evidence that, in respect of physique, the standard of those who seek to be male teachers has shown a tendency to decline. This is matter of serious regret, and any condition which would require at least a normal standard of health and physique is one which cannot be deemed superfluous for those who are to bring the proper qualities of character and temperament to the work of the profession. Almost no other calling makes such demands on that elasticity and energy of spirit which can hardly co-exist with defective physical condition. It is no doubt true that many persons at present do good work as teachers who cannot profitably to themselves or their pupils undertake physical training. In some cases advancing years may prevent it, although the teacher is still fully efficient for his ordinary work. Means can no doubt be devised for meeting such cases. But we think that as a general principle, in the case of all those proposing to enter the profession, it should be a necessary requirement that they should go through a sufficient course of instruction on the subject, and should be able to impart the essential elements of that instruction to their pupils.

Dr Paterson, 11,436.
Mr Macnee, 11,677.

195. But we would strongly urge that School Boards and other Local Authorities should give ample opportunities to existing teachers to obtain such qualification by means of those classes for special training which are contemplated under the present Code (Article 91 (*d*)). We were surprised to find that in many cases no advantage had been taken of that Article, and that so many authorities seemed to be ignorant of its provisions. Still more imperatively do we think that it ought to be required that the provision of such instruction should be an essential part of the training of students for the profession, and that no Training College or committee for the superintendence of King's students attending the University should hereafter receive a grant, unless there is provided thorough, systematic, and regular training of this kind, under the most skilled teachers who can be procured, and tested by regular inspection conducted by experts.

Dr Tuke, 1353.
Mr Whitton, 2704.
Mr J. Mackenzie, 3318.
Rev. D. B. Cameron, 3592.

196. The subject of inspection is one to which we attach great importance. We fully recognise that in the present inspectorial staff there are several who have given special attention to this matter, and who have added wide and varied experience in schools to the qualification acquired by having themselves gone through a systematic course of training. But it would be subject of serious regret if this part of inspection were regarded as a secondary matter, to be discharged perfunctorily and as a subsidiary duty, and with no other than a casual equipment. We are convinced that, on the contrary, it calls for great care, well-grounded knowledge, and a systematic study of the principles upon which sound physical training, adapted to the requirements of children of various ages and in various circumstances, should be based. The Education Department ought to take care that in the staff there should at all times be included a sufficient number of persons who have, in addition to other qualifications, given special attention to this subject, and it would be well that some high expert authority, possessing sufficiently wide and comprehensive views and a thorough grasp of the scientific principles involved, should be available for reference and guidance wherever required.

X. VOLUNTARY AGENCIES—CADET CORPS AND BOYS' BRIGADE.

197. We have already indicated the necessity for improved physical training in Elementary Schools, and the lines which it might follow. It is important not only for the scholars in these schools during their school course, but in view of a further development in the same direction at a later stage.

198. In these schools we have no desire to impose any requirement that will give an unduly military character to the physical training, yet we fully recognise certain advantages in some aspects of military training and discipline, and we see no reason why these should not be employed as a means of influencing the youth of the country. The principal outside agencies by which this might be carried out are Cadet Corps and the Boys' Brigade. These are, in our opinion, capable of playing an important part in promoting the continued training for boys up to the ages of seventeen or eighteen.

199. The advantages claimed for Cadet Corps have been pressed on our notice by those well qualified to speak for them. It has been urged that, quite apart from the military point of view, the formation of Cadet Corps is desirable on other grounds, and as a means of benefiting very materially the youth of the country. One of the blots in our educational system is that boys are frequently freed from all restraining influences on reaching the age of fourteen. It cannot be denied that the next few years, from fourteen up to eighteen or nineteen are the most critical in the lives of all as moulding their future character; and any organisation that would, as it were, connect these years with the school life, would have a far-reaching effect for good. It is claimed that the cadet system would supply such an organisation. This would lay hold of lads before leaving the Elementary Schools, and carry them over the critical period referred to. They would, at an impressionable age, be taught the lessons of loyalty, patriotism, obedience, punctuality, unselfishness, cleanliness, orderliness, and self-respect.

Mr Scougal, 1750. Major Elliot, 8347. Earl of Meath, 8403. Mr Lee, 9914. Mr G. Smith, 9978, § 6. Sir Ian Hamilton, 11,772. Dr Spenser, 12,364, § 8.

200. The development of such a system is advocated on the ground that to its absence are due in a large measure the disorder and rowdyism to be met with amongst the youth of both sexes in many large cities. No adequate means are now provided for affording an outlet for the natural spirits of the young and for the use of muscles with which nature has endowed them. Lads who had joined a Cadet Corps at their schools would probably continue to belong to it after having left school (which is the experience in Australia), and they would consequently remain in touch with their former teachers; for it has been strongly urged that the school teachers should become the officers, thus extending their sphere of usefulness and influence for good. Such an organisation would thus form a connecting link with the Volunteer service, into which the youths might pass from the Cadet Corps.

Major Elliot, 8398.

201. It has been suggested that a Cadet Corps might form the centre of organisation of physical drill and exercise for the youth of a district, with three good results, namely, improvement of physique, promotion of a corporate spirit, and discouragement of loafing. We fully appreciate the advantages of the system as proved by the experience of certain schools, the representatives of which have testified to the popularity of the corps and have advocated their extension.

Mr G. Smith, 9978, § 27. Mr Irvine, 3617. Mr Clark, 8798. Dr Spenser, 12,364, § 8. Mr Temple, 12,862.

202. The other outside agency is the Boys' Brigade, with 400 companies and 20,000 boys in Scotland alone. Its advantages are briefly stated to be that it is an agency ready to hand, working parallel to the State-aided school, but slightly in advance of it in respect of age. For nineteen years it has been training boys between the ages of 12 and 17 in the squad and company, and in many cases the battalion, drill of the Army, besides giving instruction in physical training and athletics to a large proportion of its members. The present rate of recruiting passes, at least, 8000 boys *per annum* into the ranks; and since the origin of the movement about 50,000 Scottish boys have benefited by its military training and discipline. It is, in fact, claimed that it has been providing the very means of attraction for which we are seeking, in order to induce boys over school age to continue under the influence of training and discipline.

Mr Cuthbertson, 12,967A.

203. While the Brigade is a religious movement, and under its constitution each company must be attached to a church or other Christian organisation, and cannot therefore be subject to all the conditions which apply to a State-aided school, its advocates assert that its hold on the country is not thereby weakened but rather strengthened. It has peculiar advantages in dealing with boys, and its officers hold a more intimate relation to them than is possible between the ordinary teacher and his pupils. Its training is not only military, but also moral and religious. It uses of set purpose, and has successfully used, military drill and discipline as the attraction whereby the boys are brought under the influence of religious teaching.

204. We have come to the conclusion that so long as these organisations have a distinctly educational value, they should receive recognition as agencies in the national work of education. It would be well that institutions such as Cadet Corps and the Boys' Brigade should be dealt with as parts of educational machinery and encouraged from that point of view.

205. Cadet Corps must necessarily have some connection with the Army. Their organisation should be on Army lines, and developed under military experts. They should be affiliated to units of the regular Army, for by this means a sense of responsibility and citizenship may be developed, and a valuable addition made to the available forces of the country. But in order to ensure the development of their educational features, as a means of promoting the mental and moral capacity of each individual, we are of opinion that they should be under the supervision of the Education Department, and receive any assistance which the State may give them in the form of an educational grant through that Department.

Mr Scougal, 1717. Major Elliot, 8347. Earl of Meath, 8467. Mr Clark, 8813. Sir Ian Hamilton, 11,798.

206. The difficulties which appear to be most prominent in connection with the carrying on of Cadet Corps at present are those due to the War Office regulations. Needless expense seems to be created by the insistence on the wearing of uniform. This is, of course, a matter lying within the province of the Military Authorities, but we respectfully desire to suggest that, in our opinion, the wearing of uniform should not be made compulsory, and that all expenses should be cut down to the minimum. Probably, in the matter of uniform, a cap and belt, or even a badge, would be sufficient. We have also been told that the necessity of getting seventy-five boys to join before being permitted to form a company has proved a deterrent; and that encouragement would be given in many districts were a considerably smaller number accepted. Again, there seems to be a difficulty in getting officers, and we think that this might be obviated were the teachers encouraged to become leaders of the movement; for, with their cordial co-operation, we are convinced that the system would prove highly beneficial and successful. We are of opinion that such difficulties as we have named would disappear, were the regulations altered and adapted for the extension of the system to the Elementary Schools.

207. As the Cadet Corps must be closely connected with Army organisation, so the Boys' Brigade is closely connected with a church or other religious organisation. In neither connection do we see anything to prevent their being treated as educational agencies, and receiving encouragement as such from public funds. Several facts have been stated to us as discouraging to the Boys' Brigade. One was the difficulty companies now experienced of earning grants under the present Continuation Code. The Code requires that, as a rule, physical training should be paid for only when joined with some other subject. We appreciate the weight of the reasons which led the Department to lay down this condition, and we think that in many cases it might be fulfilled without serious difficulty. But we do commend for consideration special cases in which it may be found possible to dispense with the condition in order to encourage efforts which would fail without financial aid.

Mr Whitton, 2725. Mr Craigen, 3058. Mr Gillanders, 11,133. Mr Cuthbertson, 13,010.

208. The Volunteer recruit drills are said to be irksome and even deterrent to boys who have already been sufficiently trained. We think it only necessary to draw the attention of the proper authorities to the fact that it is manifestly short-sighted to bar entrance to the Volunteer Corps by insisting on the full number of recruit drills from lads whose previous training has fitted them to take their place in the ranks of the Volunteers.

Rev. H. Williamson, 7727. Mr Peacock, 11,622. Mr Cuthbertson, 13,063.

209. Some witnesses thought that the Brigade's sphere of influence is restricted, and that by reason of its necessary connection with a Church organisation it does not get hold of the roughest among the neglected boys. Whilst we must admit that there may be real grounds for this opinion, we think that it may fairly be hoped that proper recognition of it as one of the agencies in national education, and the weight which this would add to their efforts, might extend the sphere of action of the Boys' Brigade, and enable it to reach many who are not now under its influence.

XI. SUMMARY OF RECOMMENDATIONS.

210. In conclusion we would summarise the recommendations which our enquiry leads us to make as follows:—

(1) *Elementary Schools.*—The improvement in regard to physical training will be brought about chiefly by a more intelligent conception of the proper aim of education, by recognition of the fact that the education cannot be based on sound principles which neglects the training and development of the bodily powers, and by judging results as they are shown over the whole of school life, and not by short portions of

that life. The school life should cover a larger part not only of the working time, but also of the recreation of its pupils. Larger provision of playgrounds and of exercise halls is necessary, and might with advantage take the place of a certain amount of class-room accommodation. Variety should be substituted for formal methods; and in connection with games, use should be made of all available voluntary help.

(2) *Higher Class Schools.*—In the case of boarding schools, a certain amount of systematic physical exercise should be held to be necessary, and should be given independently of games; and in the case of day schools, while the opportunities provided are, as a rule, considerable, care should be taken to see that the pupils avail themselves of these opportunities, and that games and physical exercises should be treated as an essential part of the school course. Such a course should include instruction in the elements of Hygiene and Physiology.

(3) *The Universities.*—The condition of physical training at the Universities is unsatisfactory, and without suggesting that compulsion should be resorted to, we think that the subject demands the earnest attention of the University authorities, that they should afford adequate opportunities and facilities for such exercises, and that such rearrangement of courses as may be necessary should be adopted in order to avoid an over-pressure which cannot but be injurious to the students, and hurtful to the nation generally.

(4) *Feeble-minded and Cripples.* — In any efforts for benefiting children of this class, we are convinced that carefully-adjusted physical training must play a very large part. School Boards should co-operate as far as possible with voluntary efforts in this direction; and any further powers which are required to enable them to supplement such efforts should be given.

(5) *Continuation Classes.*—For lads over school age these classes might be popularised by a larger introduction of physical exercises; and if attendance at these classes be not made compulsory for lads between fourteen and eighteen, there should be at least power in the case of proved vagrants to issue Compulsory Attendance Orders for a Continuation School, with a penalty, for breach of such Order, of committal to a Reformatory.

(6) *Medical Inspection.*—School Boards should have the command of medical advice and assistance in the supervision of schools; a systematic record of physical and health statistics should be kept; and a small number of medical and sanitary experts should be added to the inspecting staff under the Education Department.

(7) *Feeding.*—It should be one of the duties of School Boards and school managers generally to enquire into cases of apparently insufficient feeding; that they should provide facilities for the provision of suitable food by voluntary agencies, without cost to public funds, and should co-operate with these agencies in the organisation of this work. Should this prove inadequate, we think that powers should be given to provide a meal, and to demand from the parents a payment to meet the cost price.

(8) *System.*—While we are unwilling to confine teachers unduly to a hard and fast system, we think that certain principles should be carefully observed, and fundamental uniformity of method, for convenience of organisation, maintained. We have recommended (Part VIII., § 180) the appointment of a skilled Committee to prepare, under the auspices of the Education Department, a model course for a National System of Physical Training for Scotland. We hold that a daily amount of school time should, so far as possible, be devoted to physical exercises; short periods of exercise at frequent intervals being preferable to periods of longer duration at greater intervals.

(9) *Teachers.*—Except in large schools, or schools where the services of a special instructor are employed, the physical instruction should be given by the ordinary teaching staff. But for this purpose a certain amount of systematic training is absolutely necessary. The qualifications for giving physical instruction should be attested by a certificate issued under the authority of the Education Department, and in future no teacher should be recognised for giving such instruction unless he or she possesses such a certificate. In due course the possession of such a certificate should be an indispensable condition of recognition as teacher in any State-aided school.

No Training College should be recognised for assistance from the Parliamentary grant unless such systematic training forms a necessary part of its curriculum, or unless other provision is made for its being given to the students of the College.

We think that any Institution for Physical Instruction which is supported by adequate local effort, which is approved as necessary to meet the requirements of public schools, and which is certified to be efficient, should be eligible for grants on the same conditions as the present Training Colleges.

(10) *Inspection.*—There should always be on the Inspecting Staff persons who have given special attention to this subject, and competent expert and scientific aid should be available for advice and guidance.

(11) *Auxiliary Agencies.*—We think that such organisations as Cadet Corps and the Boys' Brigade may be of great use in connection with this work. Both agencies should be encouraged, and any assistance given them be given by the Education Authority, out of the grant for education. We hold that as means of disciplining the disorderly elements in society, and also of strengthening the available resources of the country, the aims of both these organisations are of supreme importance. But we prefer to regard them chiefly as means of benefiting the individual pupil, and as such we think that they may best co-operate with educational authorities, and receive any assistance granted by the State, not as military, but as educational agencies.

We cannot conclude our Report to Your Majesty without expressing our hearty appreciation of the ability as well as attention and untiring labours of our Secretary, Mr R. B. Pearson, who has been of the greatest assistance to us in our prolonged enquiry.

ALL WHICH WE HUMBLY SUBMIT TO YOUR MAJESTY'S GRACIOUS CONSIDERATION.

(*Signed*) MANSFIELD (Chairman).
THOMAS COCHRANE.
THOMAS GLEN-COATS.
HENRY CRAIK.
M. HUGH SHAW STEWART.
J. CARFRAE ALSTON.
JOHN B. FERGUSSON.
GEORGE M'CRAE.
ALEX. OGSTON.

R. B. PEARSON, *Secretary.*
14th March 1903.

APPENDIX.

APPENDIX I.

Tables, &c., extracted from the Forty-fourth Report for the Year 1900, by Mr James G. Legge, H.M. Inspector of Reformatory and Industrial Schools. [*See* VOL. II., MINUTES OF EVIDENCE, QUESTIONS 724–984.]

Physique.—An attempt has been made during the summer of 1901 to collect statistics showing the physique of children in the Home Office schools. The superintendents of industrial schools were asked to furnish the height, weight, and chest measurement of all boys, the height and weight of all girls, between the ages of eleven and twelve, and fourteen and fifteen. These ages were selected because they afforded special facilities for comparison with the statistics compiled some twenty years ago by the Anthropometric Committee, and published, with comments, in their report of 1883. Mr Charles Roberts was one of the two mainly concerned in the production of the report, and it will be found printed as an appendix to his invaluable *Manual of Anthropometry*. Sir Frederick Treves describes the 'Manual' and the 'Report' as providing 'the most precise data 'upon anthropometry, so far as the English race is 'concerned, which we possess.'

The schools responded readily to the invitation to furnish statistics, and the following tables show how, for boys and girls in industrial schools, the results obtained in 1901 compare with those published in 1883. The conditions of measurement have been the same. The height was taken without boots, the weight in clothes (but without boots—a heavy item in many schools), and the chest girth with the chest empty. The figures given in all the tables, both for reformatory and industrial schools, are *averages*.

COMPARATIVE TABLE OF BOYS AND GIRLS IN INDUSTRIAL SCHOOLS IN 1883. (Table XXI. in Committee's Report.†)

Age last birthday.	Height in inches.		Weight in pounds.		Chest girth.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
14	54·46	55·00	77·35	81·25	27·29	...
11	49·11*	51·48	63·19	60·96	24·17	...

* This figure is probably too low. It is raised by Mr Roberts in his paper of 1895 to 49·6. In Table XIII. of the Anthropometric Committee's report the average height at eleven of Industrial School boys is given as 50·02, but this figure probably related to a single school. It is also probable that Poor Law schools contributed to the Committee's figures.

COMPARATIVE TABLE OF BOYS AND GIRLS IN INDUSTRIAL SCHOOLS IN 1901.

Age last birthday.	Height in inches.		Weight in pounds.		Chest girth.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
14	55·50	56·74	80·63	88·43	28·08	...
11	50·82	51·40	64·63	65·0	26·02	...

NOTE.—The numbers of observations was much greater in 1901 than in 1883. In that year the numbers were, for all purposes, boys and girls of eleven, 158 and 63 respectively; boys and girls of fourteen, 102 and 33 respectively. In 1901 the numbers were, as regards height at eleven, 1312 boys, 481 girls; at fourteen, 2367 boys, 765 girls; as regards weight at eleven, 1296 boys, 384 girls; at fourteen, 2340 boys, 643 girls; and as regards chest girth at eleven, 1312 boys; at fourteen, 2366 boys.

† *See* Appendix VII.

The children between eleven and twelve are comparatively new-comers in the schools; at that age the figures for 1901 show a marked improvement as regards boys, though girls are stationary. The great majority of the children come from the slums of towns; and a fair inference from the figures is that the slum population of the country has not deteriorated during the past twenty years, but has, if anything, improved. This accords with the view expressed by the Anthropometric Committee of 1883 that the general belief in a rapid degeneracy in the population of the northern manufacturing towns was not founded upon fact. The advantage of girls over boys in industrial schools in 1901 accords with the rule established by the Anthropometric Committee that 'from ten to fifteen girls grow more rapidly than boys, 'and at the ages 11½ to 14½ are actually taller, and from '12½ to 15½ actually heavier than boys.'

At the age fourteen to fifteen the figures for 1901 show an improvement over those for 1883, an improvement more pronounced in the case of girls than of boys; but there is still much lee-way to be made up. In a paper written for the Royal Commission of 1895 on Secondary Education, Mr Roberts prints the following table (based on the figures of 1883) to show the stature and weight of boys aged eleven to twelve years, of different classes of the population:—

Number of observations.	Class of School.	Stature in inches.	Weight in pounds.
150	Public Schools, . .	55·0	78·7
686	Middle Class Schools, .	53·6	68·0
181	Elementary Schools, .	52·6	67·8
341	Factory Children, . .	51·6	67·4
840	Royal Military Asylums,	51·2	65·1
189	Industrial Schools, . .	49·6	63·2

He goes on to say:—'As age advances the difference 'widens, and at fourteen years of age industrial school 'boys are nearly seven inches (6·85) shorter of stature, 'and 24¾ lbs. lighter in weight than boys of the 'professional classes of the same age.' Assuming, for the purposes of comparison, that the standard for the professional class has remained the same, the advantage at fourteen of the boy of the professional classes over the industrial school boy of 1901, is reduced from 6·85 inches and 24¾ lbs. to 5·79 inches and 21½ lbs. So much for the gap between the two extremes. Even if we take the least developed of the normal classes dealt with by the Anthropometric Committee, viz., the country labourer and the town artisan of 1883, we find that these have the advantage over the industrial school boy of 1901, of three inches in height and six lbs. in weight. This fact affords a fair answer to those critics of Industrial Schools who are nervously apprehensive of the industrial school boy being raised above the level of 'the honest labourer's child outside.' These critics may still sleep sound. One more quotation may be given from Mr Roberts' paper already cited. 'Still later the difference becomes less, as the less

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'favoured classes attain maturity at a more advanced 'age than the well-nurtured classes. Full growth in 'stature is attained in the professional classes about the 'twenty-first year, but in the poorer classes, not before 'the twenty-fifth or twenty-sixth year.' It may be possible in a year or two to show how this rule affects young men who have left the Home Office Schools.

Tables showing how Protestant compare with Roman Catholic children, and English with Scottish, will be interesting.

COMPARATIVE TABLES OF PROTESTANT AND ROMAN CATHOLIC CHILDREN IN INDUSTRIAL SCHOOLS.

BOYS.

Age last birthday.	Height in inches.		Weight in pounds.		Chest girth in inches.	
	Protestant.	Roman Catholic.	Protestant.	Roman Catholic.	Protestant.	Roman Catholic.
14	55·47	55·67	81·09	78·08	28·11	27·94
11	50·92	50·42	67·28	61·77	26·03	25·99

GIRLS.

Age last birthday.	Height in inches.		Weight in pounds.	
	Protestant.	Roman Catholic.	Protestant.	Roman Catholic.
14	56·71	56·78	87·61	90·65
11	51·60	51·12	65·63	63·94

NOTE.—The numbers of observations were—Protestant, at age eleven, height, 1053 boys, 282 girls; weight, 1007 boys, 259 girls; chest girth, 1053 boys; at age fourteen, height, 2009 boys, 516 girls; weight, 1982 boys, 470 girls; chest girth, 2008 boys. Roman Catholic, at age eleven, height, 259 boys, 199 girls; weight, 259 boys, 125 girls; chest girth, 259 boys; at age fourteen, height, 358 boys, 249 girls; weight, 358 boys, 173 girls; chest girth, 358 boys.

These tables do not show that Protestant children have a marked advantage in physique over Roman Catholic; indeed, Roman Catholic girls have the advantage at the higher age. Nevertheless the much higher death-rate in Roman Catholic Schools points perhaps to constitutional weaknesses not revealed by figures giving physical dimensions.

COMPARATIVE TABLE OF ENGLISH AND SCOTTISH CHILDREN IN INDUSTRIAL SCHOOLS.

BOYS.

Age last birthday.	Height in inches.		Weight in pounds.		Chest girth in inches.	
	English.	Scottish.	English.	Scottish.	English.	Scottish.
14	55·43	55·67	80·35	81·37	27·99	28·31
11	50·93	50·46	64·40	65·36	26·01	26·07

GIRLS.

Age last birthday.	Height in inches.		Weight in pounds.	
	English.	Scottish.	English.	Scottish.
14	56·80	56·53	87·92	90·10
11	51·35	51·57	64·65	66·81

NOTE.—The number of observations at age eleven were—for England, height, 1007 boys, 370 girls; weight, 1007 boys, 309 girls; chest girth, 1007 boys; at age fourteen, height, 1688 boys, 679 girls; weight, 1687 boys, 494 girls; chest girth, 1687 boys. Scotland, at age eleven, height, 305 boys, 111 girls; weight, 289 boys, 75 girls; chest girth, 305 boys; at age fourteen, height, 679 boys, 185 girls; weight, 653 boys, 149 girls; chest girth, 679 boys.

The figures are remarkably even, though Scotland has a slight advantage.

We now come to a table of great importance, the object of which is to compare the physique on board the Industrial School Ships, in Farm and Country Schools, and in Town Schools.

COMPARATIVE TABLES OF BOYS IN SHIPS, COUNTRY AND TOWN SCHOOLS.

AGES FOURTEEN TO FIFTEEN.

Class of School.	Number of observations.	Height in inches.	Weight in pounds.	Chest girth in inches.
Ship, . .	630	55·66	80·83	28·49
Country .	670	55·85	81·93	28·35
Town, . .	774	55·40	81·50	27·66

AGES ELEVEN TO TWELVE.

Ship, . .	100	51·61	66·19	26·34
Country, .	345	51·26	61·75	26·36
Town, . .	604	50·55	63·73	25·84

Ships and country schools have not the advantage at the higher age which might be anticipated. That town schools hold their own as well as they do may fairly be ascribed to the fact that, expressly to counteract their drawbacks, they took the lead in developing physique on scientific principles. The advantage of ships at the earlier age is probably due to the exercise of a discrimination which secures that when young boys are sent on board they are fairly well-grown for their class.

An attempt has been made to compare the material furnished by different towns in the country. The following is a list of towns which are responsible for at least 10 boys aged eleven to twelve. The towns are ranged in accordance with the average height of their children.

Town.	Number of children.	Average height.
Bristol, ...	34	51·97
Leeds, ...	11	51·88
Gateshead, ...	11	51·56
Newcastle-on-Tyne, . .	41	51·05
Birmingham, . . .	14	51·03
London, ...	289	50·98
Edinburgh, . . .	53	50·92
Leicester, ...	11	50·84
Derby, ...	11	50·72
Salford, ...	10	50·70
Dundee, ...	10	50·58
Manchester . . .	45	50·14
Liverpool, . . .	74	50·06
Glasgow, ...	92	50·02
Perth, ...	12	49·91
Sunderland, . . .	14	49·88
North and South Shields, .	14	49·55

Lastly, with regard to Industrial School boys, it may be stated that the dimensions of over 1000 boys between fourteen and fifteen have been scrutinised, with a view to ascertaining how many might reasonably be expected at fifteen years and three months to reach the Naval standard. The percentage comes to about fifteen.

We may now pass to consider the physique of boys and girls in Reformatory Schools. The superintendents of these schools were asked to furnish figures for the ages fourteen to fifteen, and seventeen

to eighteen. Replies from almost every school have been received.

COMPARATIVE TABLE SHOWING THE HEIGHT, WEIGHT, AND IN THE CASE OF BOYS, CHEST-GIRTH, OF INMATES OF REFORMATORY SCHOOLS, AGED FOURTEEN TO FIFTEEN, AND SEVENTEEN TO EIGHTEEN.

Age last birthday.	Height in inches.		Weight in pounds.		Chest girth in inches.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
17	61·42	60·77	110·14	111·82	31·79	...
14	56·24	58·04	84·35	95·74	28·24	...

NOTE.—The numbers of observations at age fourteen were—height, 819 boys and 113 girls; weight, 819 boys and 99 girls; chest girth, 819 boys. At age seventeen, height, 570 boys and 149 girls; weight, 570 boys and 119 girls; chest girth, 570 boys.

On comparing the Reformatory boy of fourteen with the Industrial School boy of the same age, it is interesting to note that he has the advantage all round. So, too, and more markedly, has the Reformatory girl over her Industrial School sister. This may be partially accounted for by the suggestion that they are, as it were, a survival of the fittest in their class. But reference may be made to the discussion in the Report for 1897 of the social condition of the parents of children in the schools, which brought out clearly the superiority financially of the parents in Reformatory cases over the parents in Industrial School cases. Strange though it be, the former seem to be in the better social position.

There is no means of comparing the reformatory lad or girl of seventeen in 1901 with their fellows in 1883. But compared with the artisan class in Towns (*see* Tables XVI.–XIX. of the Report of the Anthropometric Committee) * the reformatory lad at seventeen is 3·28 inches shorter and 10·36 lbs. lighter than the average artisan of the same age. On the other hand, the reformatory girl of seventeen is but 1·45 inches shorter and 2·58 lbs. lighter than the average girl of the commercial class—a class second only in physical development to the most favoured of all. This result will not surprise one acquainted with girls' reformatory schools. The aspect of a battalion of reformatory girls drawn up for physical drill is a formidable one.

We may again compare the results afforded by Protestant and Roman Catholic, and English and Scottish Schools.

COMPARATIVE TABLES OF INMATES OF PROTESTANT AND ROMAN CATHOLIC REFORMATORY SCHOOLS.

BOYS.

Age last birthday.	Height in inches.		Weight in pounds.		Chest girth in inches.	
	Protestant.	Roman Catholic.	Protestant.	Roman Catholic.	Protestant.	Roman Catholic.
17	61·59	60·89	110·32	109·60	32·07	30·97
14	56·33	55·93	83·95	85·73	28·32	27·99

* *See* Appendix VII.

GIRLS.

Age last birthday.	Height in inches.		Weight in pounds.	
	Protestant.	Roman Catholic.	Protestant.	Roman Catholic.
17	60·44	61·53	110·08	118·01
14	57·56	59·45	93·67	103·00

NOTE.—The numbers of observations were—Protestants, at age fourteen, height, 636 boys and 84 girls; weight, 636 boys and 77 girls; chest girth, 636 boys; at age seventeen, height, 424 boys and 103 girls; weight, 424 boys and 93 girls; chest girth, 424 boys. Roman Catholics, at age fourteen, height, 183 boys and 29 girls; weight, 183 boys and 22 girls; chest girth, 183 boys; at age seventeen, height, 146 boys and 46 girls; weight, 146 boys and 26 girls; chest girth, 146 boys.

These tables confirm, on the whole, the industrial school tables. Protestant boys have an advantage over Roman Catholic boys, but not so marked as the advantage of Roman Catholic girls over Protestant girls.

COMPARATIVE TABLES OF INMATES OF ENGLISH AND SCOTTISH REFORMATORY SCHOOLS.

BOYS.

Age last birthday.	Height in inches.		Weight in pounds.		Chest girth in inches.	
	English.	Scottish.	English.	Scottish.	English.	Scottish.
17	61·70	60·46	110·41	107·31	31·81	31·59
14	56·22	56·35	84·24	84·90	28·17	28·58

GIRLS.

Age last birthday.	Height in inches.		Weight in pounds.	
	English.	Scottish.	English.	Scottish.
17	60·70	61·58	111·83	111·00
14	58·11	57·69	95·65	96·86

NOTE.—The numbers of observations were—England, at age fourteen, height, 677 boys and 95 girls; weight, 677 boys and 92 girls; chest girth, 677 boys; at age seventeen, height, 520 boys and 136 girls; weight, 520 boys and 117 girls; chest girth, 520 boys. Scotland, at age fourteen, height, 142 boys and 18 girls; weight, 142 boys and 7 girls; chest girth, 142 boys; at age seventeen, height, 50 boys and 13 girls; weight, 50 boys and 2 girls; chest girth, 50 boys.

Here again the balance between the two countries is fairly even. As regards boys Scotland has the advantage at fourteen, England at seventeen. The smallness of the number of observations in the case of Scottish girls rather spoils the comparative value of the second table.

APPENDIX II.

Tables prepared by Mr Thomas Chesterton, Organising Teacher of Physical Education (London School Board).

[*See* VOL. II., *MINUTES OF EVIDENCE, QUESTIONS* 3932-4152.]

TABLE I.—CHILDREN'S MEASUREMENTS before and after undergoing a course of physical training. Chesterton's system as an experiment.

Station.	Year	Number of Boys.	Time under Instruction.	Description of Training.	Average Age at Commencement.	Average Measurements. Height in.	Weight lbs.	Chest in.	Right forearm.	Right upper arm.	Remarks.
Chatham, . . .	1886	40	6 months.	Free movements and a little gymnastics.	11¾ years.	ft. in.			in.	in.	Garrison school children, two lessons per week, 4.30-5.30 p.m. January to July.
At commencement,						4 7¼	73½	26⅞	7⅞	8	
At termination,						4 8⅛	79	27⅝	8	8⅜	
Average gain,						1⅛	5½	1			
Should be at commencement,						4 7⅞	74½	27	7⅞	8⅛	Maclaren's standard for better class at twelve years.
Below Maclaren's standard,						⅝	1¼	⅛			
Should be at termination,						4 8¾	77½	27⅛	8	8⅜	Maclaren's standard after six months' gymnastics.
Over Maclaren's standard at termination,						...	1¼	¼	...		
All measurements taken in presence of Superintendent.											
Union School, Crondall,	1888	33	6 months.	Free movements.	12¼ years.						Poor Law school, 30 minutes *per diem*, three days in week, and one special lesson, of 45 minutes' duration weekly.
At commencement,						4 4⅛	...	26⅜	...	...	
At termination,						4 5⅛	...	28⅛	...	...	
Average gain,						1	...	1¼	...	...	
Should be at commencement,						4 5	...	27⅛	...	...	Roberts' standard. Industrial school boys.
Below Roberts' standard,						⅛	...	⅛	...	...	
Should be at termination,						4 5⅛	...	27⅜	...	...	Roberts' standard after six months' training.
Over Roberts' standard at termination,						⅛	...	¼	...	...	
No weight or arm measurements taken.											Measurements taken by Superintendent.

TABLE II.—MEASUREMENTS OF BOARD SCHOOL BOYS.—May 1902.

The following were taken during the month of May 1902, and show averages only for the different ages. The children aged 8–9 years were assembled in single rank and sized—shortest on the right—tallest on the left, numbered in threes, and the number ones selected for measurement. The same plan was followed with the other ages. Height taken without boots, and chest deflated, skin measurement, with arms at the sides.

Name of School.	Measurement taken.	Boys' ages in years. 8–9.	9–10.	10–11.	11–12.	12–13.	13–14.	Remarks.
Lyndhurst Grove, Camberwell	Height	4′ 1″	4′ 2⅜″	4′ 4¼″	4′ 5′	4′ 7¼″	4′ 9½″	Ordinary Elementary School. Physical training a great speciality. Good residential neighbourhood.
	Chest	24″	24¼″	24¼″	25″	26½″	27½″	
	Number measured	15	16	18	19	13	16	
Monnow Road, Bermondsey	Height	4′ 0⅜″	4′ 1⅝″	4′ 4½″	4′ 5½″	4′ 7½″	4′ 9⅝″	Higher Grade School. Fairly good residential neighbourhood. Artisan class. Tanneries.
	Chest	23½″	23½″	24⅝″	24½″	25½″	26⅝″	
	Number measured	22	22	20	21	33	27	
Hugon Road, Fulham	Height	3′ 11½″	4′ 1½″	4′ 3½″	4′ 4⅜″	4′ 5⅜″	4′ 7⅜″	Ordinary Elementary School. Poor neighbourhood. Water side.
	Chest	23″	23½″	24½″	24½″	24½″	25⅝″	
	Number measured	56	53	46	56	39	38	
Eltringham Street, Wandsworth	Height	4′ 0½″	4′ 2⅞″	4′ 4½″	4′ 6⅜″	4′ 8½″	4′ 10½″	Ordinary Elementary School. Physical training in all its branches a great speciality. Poor neighbourhood. Water side.
	Chest	24½″	24½″	25½″	25½″	25½″	26⅝″	
	Number measured	24	24	24	24	24	24	
Kennington Road, Lambeth	Height	3′ 11½″	4′ 1½″	4′ 2½″	4′ 4″	4′ 5½″	4′ 8⅜″	Ordinary Elementary School. Fairly good residential neighbourhood. Artisan class.
	Chest	23″	23½″	23½″	25⅜″	25½″	26⅝″	
	Number measured	17	22	23	24	21	16	
Average height		4′ 0 3/32″	4′ 1 13/32″	4′ 3⅜″	4′ 5″	4′ 6⅝″	4′ 9 5/32″	These figures may be taken as a fair average for the whole of the London Board Schools.
,, chest		23 9/32″	23 7/32″	24⅜″	25 3/32″	25 7/16″	26½″	
Number measured		131	137	131	144	130	121	
Dr Roberts—Ordinary school boys		3′ 11 5/16″	4′ 1 5/16″	4′ 3 5/16″	4′ 5 5/16″	4′ 7 1/16″	4′ 8 3/16″	

Roberts' measurements were taken twenty years ago in better class Voluntary Schools, at which time children in such schools were physically superior to those found in Board Schools.

App. II. App. II.

TABLE III.—MEASUREMENTS of the first 40 Boys on the Roll.

Second Measurements taken 1st January 1902.

Senior Boys.

Institution.	Average age of the 40 senior boys on admission.	Date when admitted.	Average when admitted.			Average time in residence.	Average gain, each boy, since admission.			Remarks.
			Height ins.	Weight lbs.	Chest ins.		Height ins.	Weight lbs.	Chest ins.	
		From	ft. ins.	lbs. ozs.	Ins.					
Training ship *Shaftesbury.*	$12\frac{1}{3}$	30.8.98	4 $5\frac{1}{2}$	69 $6\frac{1}{2}$	27	2 years and $\frac{9}{40}$ months.	$5\frac{3}{40}$	$21\frac{11}{120}$	$3\frac{23}{80}$	Roberts says Industrial School boys should be 4 ft. $4\frac{1}{2}$ ins. from 12–13 years of age. From 15–16 years, 4 ft. $8\frac{1}{2}$ ins. These boys are at the present time $1\frac{29}{40}$ ins. above Roberts' average for Industrial School boys of the same age.

TABLE IV.—MEASUREMENTS of the first 40 Boys who have been on Board less than 15 months.

First Measurements taken 1st January 1901. Second Measurements taken 1st January 1902.

Junior Boys.

Institution.	Average age on 1st January 1901.	Date when measured.	Average when first measured.			Time in residence.	Average gain, each boy, for the period of one year.			Remarks.
			Height ins.	Weight lbs.	Chest ins.		Height ins.	Weight lbs.	Chest ins.	
			ft. ins.							
Training ship *Shaftesbury.*	$13\frac{1}{48}$	1.1.01	4 $6\frac{5}{16}$	$73\frac{23}{32}$	$26\frac{13}{32}$	Less than 15 months.	$1\frac{1}{4}$	$6\frac{3}{16}$	$1\frac{49}{80}$	Roberts says Industrial School boys should be 4 ft. $5\frac{17}{20}$ ins. from 13–14 years of age, average. These boys were 4 ft. $7\frac{1}{16}$ ins. in height, average, on 1st January last.

TABLE V.—RESULTS of an experiment made on the Training Ship *Shaftesbury* in 1900. Ten boys were chosen indiscriminately. The physical training consisted of free movements and dumb-bell exercises only. The course extended over a period of 100 days—January to April—and the boys had one hour's instruction daily for six days in the week.

Shaftesbury.	Age.	Measurements.									Remarks.
		Height ins.	Weight lbs.	Chest ins.	Right fore-arm.	Right upper arm.	Right triceps.	Left fore-arm.	Left upper arm.	Left triceps.	
Aggregate gain	At commencement $14\frac{1}{4}$.	$10\frac{1}{2}$	$55\frac{3}{4}$	8	$4\frac{7}{8}$	$3\frac{3}{8}$	$5\frac{1}{8}$	$3\frac{5}{8}$	$3\frac{7}{8}$	$4\frac{5}{8}$	The whole of the measurements were taken in the presence of the Chairman of the Committee and the Captain Superintendent.
Average gain		$1\frac{3}{20}$	$5\frac{23}{40}$	$\frac{4}{5}$	$\frac{39}{80}$	$\frac{27}{80}$	$\frac{41}{80}$	$\frac{29}{40}$	$\frac{31}{80}$	$\frac{19}{40}$	
Maclaren for the *artisan* class.		$1\frac{1}{8}$	$5\frac{1}{4}$	$\frac{5}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	...	...	...	...	Average gain at the end of a course of physical training lasting 100 days.
		Under.	Over Maclaren's standard.								

APPENDIX III.

Extracts taken from Various Books by Mr Francis Warner, M.D., F.R.C.P. [*See Vol. II., Minutes of Evidence, Questions* 7184–7332.]

App. III.

Extracts from "The Nervous System of the Child," by Dr Warner.

The following table, drawn up by Dr Clement Dukes, in *Remedies of the Needless Injury to Children*, expresses his experience as to the amount of sleep required by children:—

As Work and Sleep should be allotted.

Age	Hours of Work per Week.	Hours of Sleep per Night.
Children between 5– 6	6	13½
,, ,, 6– 7	9	13
,, ,, 7– 8	12	12½
,, ,, 8– 9	15	12
Pupils between 8–10	20	11½
,, ,, 10–11	25	11
,, ,, 11–12	30	10½
,, ,, 12–14	35	10
,, ,, 14–15	40	9½
,, ,, 15–17	45	9
,, ,, 17–19	50	8½

This includes time devoted to study and chapel on Sunday; some will think the hours of work rather long.

The following Cambridge and Oxford health statistics of women at college were collected by Mrs Henry Sidgwick:—

	At ages 3–8 years.		At ages 8–14 years.		At ages 14–18 years.	
	American.	English.	American.	English.	American.	English.
Per cent. in excellent or good health	76·74	71·45	73·33	67·09	...	61·97
Per cent. in fair health	1·84	16·98	2·98	22·78	...	27·14
Per cent. in poor or indifferent health	21·42	11·57	23·69	10·13	...	10·89
	100·00	100·00	100·00	100·00	...	100·00

Average Age at entering College Life.

American, 18·35 years.
English, 21·9 years.

	American.	English.
Per cent. in excellent or good health	78·16	68·20
Per cent. in fair health	1·98	22·08
Per cent. in poor or indifferent health	19·86	9·72
	100·00	100·00

Extracts from "The Study of Children," by Dr Warner.

Table showing Average Heights and Weights of Boston School Children of American Parentage. No. 3.

After Dr Bowditch. *See Annual Report of the State Board of Health*, Massachusetts, 1877. Height taken without shoes; weight in ordinary dress.

Age Last Birthday.	Boys.		Girls.	
	Inches.	Pounds.	Inches.	Pounds.
5 years	41·74	41·20	41·47	39·82
6 ,,	44·10	45·14	43·66	43·81
7 ,,	46·21	49·47	45·94	48·02
8 ,,	48·16	54·43	48·07	52·93
9 ,,	50·09	59·97	49·61	57·52
10 ,,	52·21	66·62	51·78	61·09
11 ,,	54·01	72·39	53·79	70·26
12 ,,	55·78	79·82	57·16	81·35
13 ,,	58·17	88·26	58·75	91·18
14 ,,	61·08	99·28	60·32	100·32
15 ,,	62·96	110·84	61·39	108·42
16 ,,	65·58	123·67	61·72	112·97
17 ,,	66·29	128·72	61·99	115·84
18 ,,	66·76	132·71	62·01	115·80

Table based on 50,000 children seen in day schools, mostly in or near London (1892–94); viz., 26,287 boys, 23,713 girls. Showing the co-relation or association of the main classes of defect observed in children.

The table is arranged in four columns, giving the percentages for children in the age-groups and at all ages. The percentages are taken on the number with the main class of defect.

Thus: Of all cases with development defect at all ages, 38·4 per cent. of the boys and 49·9 per cent. of the girls were mentally dull.

Of all the dull children at all ages, 57·6 per cent. of the boys and 52·6 per cent. of the girls also presented abnormal nerve-signs.

	7 Years and under.		Age 8–10.		Age 11 and over.		All Ages.		
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
A									*All cases with developmental defect.*
									Boys, 2308; girls, 1618.
AB	31·7	28·5	43·3	41·4	40·5	44·0	38·4	36·2	Per cent. with abnormal nerve-signs.
AC	22·7	35·9	16·0	22·1	7·5	15·0	16·2	26·3	Per cent. with low nutrition.
AD	36·6	40·8	41·2	46·6	37·1	51·1	38·4	44·9	Per cent. with mental dulness.
B									*All cases with abnormal nerve-signs.*
									Boys, 2853; girls, 2015.
AB	35·1	41·2	30·6	28·9	28·3	21·4	31·0	29·1	Per cent. with developmental defect.
BC	19·6	27·4	11·3	15·2	7·5	10·2	12·3	16·6	Per cent. with low nutrition.
BD	43·3	47·9	42·6	41·9	39·6	40·4	41·8	42·6	Per cent. with mental dulness.
C									*All cases with low nutrition.*
									Boys, 749; girls, 770.
AC	52·5	66·1	51·0	50·4	39·3	35·5	49·9	55·5	Per cent. with developmental defect.
BC	41·1	36·0	51·1	51·1	50·4	49·9	47·1	43·5	Per cent. with abnormal nerve-signs.
CD	43·6	42·0	44·8	40·7	37·6	35·6	43·1	40·5	Per cent. with mental dulness.
D									*All dull children.*
									Boys, 2077; girls, 1635.
AD	45·9	55·1	43·3	42·6	38·6	34·9	42·8	44·4	Per cent. with developmental defect.
BD	49·0	44·1	63·4	56·6	59·1	56·7	57·6	52·6	Per cent. with abnormal nerve-signs.
CD	23·6	39·1	14·8	16·3	7·5	10·2	15·5	19·0	Per cent. with low nutrition.

App. III.

Extracts from the Report on the Scientific Study of the Mental Conditions of Childhood.

No. 4.

FACSIMILE OF RECORDING CARD.

School..... *Card No*.....

Std..... *Reg. No*..... GIRLS.

Age..... ..... *Spl. Rept*.....

A DEVELOPMENT DEFECTS

a 1	CRANIUM	47	O. occuli lax
2	Large	48	Eye movements
3	Small	49	Head balance
4	Bossed	50	Hand weak
5	Forehead	51	Hand nervous
6	Frontal ridge	52	Finger Twitches
		53	Lordosis
		54	OTHER NERVE-SIGNS
b 11	EXTERNAL EAR		
c 12	EPICANTHIS	C	NUTRITION
d 13	PALATE	D	DULL
14	Narrow	E	EYE-CASES
15	V-shaped	64	Squint
16	Arched	65	Glasses plus
17	Cleft	66	Glasses minus
18	Other types	67	Myopia, no glasses
e 19	NASAL BONES	68	Cornea disease
f 20	GROWTH SMALL	69	Eye, lost accident
g 21	OTHER DEVELMT. DFTS.	70	Eye, lost disease
B	NERVE-SIGNS	F	RICKETS
43	General balance	G	EXCEPTIONAL CHILDREN
44	Expression	*i* 82	CRIPPLES
45	Frontals overact		
46	Corrugation		ABCD EF G

In sorting the cards for the purpose of compiling the Tables relating to the cases seen 1892-94, the defects included under E, F, and G were not considered. Thus a card with A and F marked was counted as A only; B, C, and E as B C only; and so on. Combinations of A, B, C, or D, with E, F or G, have not been tabulated.

App. III.

No. 5.

TABLE OF CASES SEEN 1888-91.—CONDITIONS OF DEFECTIVE DEVELOPMENT IN RELATION TO LOW NUTRITION, MENTAL DULNESS, AND NERVE DEFECTS.

Among 2794 Boys, 2550 Girls. January 1889.			Low Nutrition.		Mental Dulness.		Nerve Defects.	
			B.	G.	B.	G.	B.	G.
Total of cases presenting some defects of development, including cranial abnormalities, palate, ears epicanthis, and other defects (not including squint), boys, 274; girls, 125; total, 399			62	40	86	39	101	44
Cranial defects alone, not in combination			22	12	33	11	31	12
Palate defective alone			6	3	5	12	9	3
Ears defective alone			5	4	8	3	11	4
Epicanthis folds alone			1	5	3	1	1	2
The 73 cases with defects other than those mentioned presented			10	4	18	4	23	4
Cases of Binary Defects.								
Defects of cranium and palate			12	4	12	4	20	7
,, ,, ears			6	0	11	0	12	0
,, ,, epicanthic folds			...		1	0	3	2
,, ,, other defects than those mentioned			5	3	6	2	6	2
,, palate and ears			2	0	7	0	6	0
,, ,, epicanthic folds			1	0	2	2	4	2
,, ,, other defects			0	1	4	2	5	2
,, ears and epicanthis			1	1	3	2	3	0
,, ,, other defects			2	0	5	0	1	0
	B.	G.						
Cases of Triple Defects.	24	7	11	6	14	2	11	6
The Palate was examined in 459 cases:								
It was found normal in	265	77	...		...		...	
,, ,, abnormal in	77	40	...		...		...	
Defects of palate:								
Arched, narrow, high, or vaulted	68	37						
V-shaped, not included above	6	2	29	13	22	20	29	16
Of the flat type	3	1						
	77	40						
Defects of ears:								
Symmetrical	37	13	12	2	13	2	15	3
Asymmetrical	27	4	5	2	11	2	9	2
	64	17						
Epicanthic folds:								
Symmetrical or double	27	17	5	4	9	6	6	3
Single or most marked on one side	10	4	1	1	1	0	1	0
	37	21						

I. *Extracts from the Report on the Scientific Study of the Mental Conditions of Childhood.* App. III.

Nomenclature of Signs adopted as the Basis of this Inquiry.—With Tabulation of Cases.

The columns indicate the numbers of children presenting each condition or defect respectively as seen in school, 1888–91 and 1892–94. The total numbers among the 100,000 children under report are also given. If a decimal point be inserted at the third numeral from the right hand it gives the percentage of the number of children with the condition or defect as taken upon the number of children seen. No. 6.

Each defect is enumerated, whether alone or in combination with other defects.	Of 50,000 in Schools seen 1888–1891.		Of 50,000 in Schools seen 1892–1894.		Of total of 100,000 in Schools seen 1888–1894.
	Boys.	Girls.	Boys.	Girls.	Boys & Girls.
S. Number of children seen	26,857*	23,143	26,287	23,713	100,000
A. Defects in Development.—The term includes any point of defect in the form, proportion, or size of the body and its parts, or the absence of any part	3,616	2,235	2,308	1,618	9,777
(*a* 1). Cranium Defective includes any defect in size, form, proportions, or ossification of the cranium. A given case may come under more than one of the classes below. As to a standard of normal size: In a well-developed child of good potentiality the head circumference at ninth month is 17½ inches, at twelve months 19 inches, at seven years 20 to 21 inches. This is a rather high standard of size	1,528	1,048	806	611	3,993
(*a* 2). Cranium Large.—A head of 22 inches circumference or over may be considered large in a school child; allowance must be made for age. Doubtless many of these cases are rachitic. Hydrocephalus is entered in its own class	257	46	107	13	423
(*a* 3). Cranium Small.—The point of size of head is recorded as apart from the size of the child for its age. The volume is estimated in relation to the normal for age. This is determined by inspection, by the open hand placed upon the head, and by the measuring tape. A head with circumference over 20 inches at any school age is not registered as small; usually the small heads are 18 to 19½ inches circumference. Small head is noted independent of stature	327	738	149	516	1,730
(*a* 4). Cranium Bossed.—There may be bosses, protuberances, or outgrowth at the sites of the ossific centres of the frontal bones, at the parietal centres, at the site of the fontanelle, and elsewhere. These are usually symmetrical, but not always	495	127	323	47	992
(*a* 5). Forehead Defective.—The forehead may be narrow, shallow in vertical measurement, or small in all dimensions; it may bulge forward and overhang. All defects of the forehead, except 'bosses' and 'frontal ridge' (*a* 4, *a* 6), are here included	183	78	53	23	337
(*a* 6). Interfrontal Ridge.—The vertical suture between the two halves of the frontal bone may be the site of a bony ridge, present in all degrees; if the forehead be also narrow it forms the scapho-cephalic type	89	27	121	19	256
(*a* 7). Cranium Asymmetrical.—Asymmetry may be as to the forehead or other part; one side of the cranium may be smaller than the other	84	16	27	2	129
(*a* 8). Dolichocephalic.—Head long in antero-posterior diameter	43	10	26	2	81
(*a* 9). Hydrocephalic.—This term is used as in medicine	5	2	2	1	10
(*a* 10). Other types of Cranium.—Square; oxycephalic, or elevated and conical; cranium larger in anterior than in posterior segment	50	6	11	2	69
(*b* 11). External Ear Defective in its parts, size, or form. Abnormality in size, proportioning, absence of parts, texture of skin are here recorded. The ear may be outstanding with great convexity posteriorly and concavity in front; the helix or portions thereof and the antehelix may be absent; the skin over the cartilage may be tight and adherent, coarse in texture with varicosities. The ears may be asymmetrical, and the lobes may be adherent to the face	1,047	268	364	103	1,782
(*c* 12). Eyelids with Epicanthis.—The epicanthis is a fold of skin continuous with the lower fold of the upper eyelid (not a fold of mucous membrane) placed across the inner angle of the opening of the eyelids covering the caruncle; it may be asymmetrical	514	384	288	190	1,376
(*d* 13). Palate Defective in Shape.—Defects in form are described as seen in the horizontal and in the vertical plane	796	525	496	310	2,127
(*d* 14). Palate Narrow.—Without being otherwise altered, the palate may be contracted laterally in the space between the alveolar processes	450	291	270	163	1,180
(*d* 15). V-shaped Palate.—Pointed more or less sharply at its anterior extremity, the alveolar processes being nearly straight lines, meeting at their extremities at an acute angle	235	171	179	110	695
(*d* 16). Palate Arched or Vaulted, thus deviating from the normal in the vertical plane with a high roof	86	41	30	22	179
(*d* 17). Palate Cleft.—A deformity which may affect the hard and the soft palate	14	8	12	13	47
(*d* 18). Other Defective Types of Palate, such as the flat and the horse-shoe type	10	15	...	3	28
(*e* 19). Nasal Bones, wide, sunken, or indented. The bony bridge of the nose may be thus ill-shapen and depressed as in the undeveloped condition of babyhood	241	214	155	153	763
(*f* 20). Growth Small or stature short.—Children short and small in build for their age	209	209	271	328	1,017
(*g* 21). Other Defects in Development less frequently observed	908	645	250	212	2,015

* The actual number seen was 26,884, but 27 have been deducted so as to make a total of 50,000 for convenience of working percentages.

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education of the school? Did you find that there were deficiencies in other departments?—Not at all. It is a strong school at every point.

1185. Strong at every point?—Yes.

1186. Well that seems to show that you can devote a good deal more than half an hour a week without injuring the general education?—Yes; but then it is very possibly not very much more than half an hour. Alloway, after all, is a fairly large school; and though it may be that they are getting much more than half an hour in the week, is it not possible that when you come to individual pupils they may not have very much more?

1187. Of course the time-table will show that, and we can ask the headmaster?—But the time-table is somewhat misleading.

School premises: fixed furniture: central hall.

1188. As to the difficulty of finding space in schools for this training, you referred to the fixed furniture and graded floors and the want of a hall, and so on, but does it come within your knowledge that this system of having fixed furniture and graded floors is becoming universal in your schools?—It is not so bad in the old schools, but in the new schools that is always done. I think it is, generally speaking.

1189. Perhaps you do not know whether or not the Department insists on this being done?—Oh, I think the Department gives them an entirely free hand in the matter. There is no condition laid down about desks.

1190. When you are building a new school?—No; provided the furniture is suitable—that is all.

1191. Then the same as to central halls—do they encourage central halls?—They give the Boards there, too, an entirely free hand.

1192. I am afraid not, Mr Lobban. I fought very hard for our central hall, and it was only because I stuck to my point for months and months that I carried it?—I beg your pardon. I was rather thinking from the other point of view, whether they put any difficulty in the way; whether they insist upon free halls.

1194. Is the town of Ayr in your present district?—Oh, yes; the whole county is.

1195. Is there much physical training given in the Ayr Burgh schools?—Well, not very much.

1196. And still they have every advantage. It is a military centre, with instructors at their hand, and everything else?—Yes. I think it would be a very important advantage if the local military instructors could somehow be brought into touch with the education system of the country.

Military instructors should be brought into touch with education system.

1197. Then you spoke about prizes for competition among the schools, but do you not think that that might lead to the children, or a squad of them, being trained for show—rather to the neglect of the others?—No doubt there is a little risk in that way. I quite admit that.

1198. While you think the healthy spirit of competition would be good?—Yes.

1199. But it would have to be carefully done?—Yes, quite so.

Games supervised. Playground inadequate.

1200. Then on the question of games. I suppose one of the troubles about games is that there is no place even in the country for the children to play games?—No, except the playground itself.

1201. A good many playgrounds, I suppose, are not suitable?—Well, they could not play cricket, and they cannot even play football.

1202. The village green unfortunately does not exist, but do you not think that it is desirable, even if it is only elementary football in the school playground, to start children well, and tell them how to play the game. I do not mean to give it to them as a lesson, as a piece of their school work, and stand over them and interfere with them, but put them in the right way of playing the game?—Well, if it means that the supervision of the teacher is to extend to the playground I entirely agree, and I think that as long as they are in the playground or on the premises at all, they are quite as much, or ought to be quite as much, under the supervision of the teacher as they are in the classroom.

1203. Then so far you would be in favour of games being taught?—Supervise them. Leave the children free to select their games, but let them play in the playground under the supervision of the teachers.

1204. I was more supposing they are out of the playground. Supposing they had a field handy to the school where they could play, do you not think that it would be well to teach them how the games ought to be played?—I do not think it would become general very readily that there should be a play field for them—for the Board Schools.

1205. That may be; but if there were one?—But if there were one.

1206. You would not be against giving games more consideration?—No, certainly not; but I see very little prospect of ever having a playing field in connection with the ordinary Board School.

Military drill objection have practically disappeared.

1207. You spoke of some of your School Boards objecting to the military spirit. Do you find that it is the general use of the words of 'military drill' to cover all sorts of physical exercises that has among a good many people exercised an adverse influence. They begin to say you are just trying to make soldiers of the children, whereas all the time you are only trying to teach them to breathe and walk properly?—I do not think I ever heard any Board or member of a School Board express to myself any objection or opposition to physical training. I think it was more a matter of hearsay; in fact, I think it takes me away back to the days when I was in Paisley. I think I heard some members of the Board there express an opinion adverse to military training—I mean that it fostered the military spirit; but I do not think it is general now, and if it had been in the early days it has entirely disappeared. I think we may take that for granted almost.

Food of most cost very

1208. Then, as far as the feeding is concerned, of course I suppose we may take it that if you increase the physical exercise you may increase the appetite of the children?—That is so.

1209. Taking it as you said, that the majority of the children in your district are fairly well fed, I understood you to say you would favour any system which enabled the children readily to get a good meal in the middle of the day?—Most decidedly.

1210. And you think that the parents—of course, all the parents can do is to give the child 'a piece' to take to school, or very often a penny which you know goes in sweets—you think that the parents would favour a way of making it easier for the children to get a good meal in the middle of the day; and they would not grudge to pay for it?—I think the parents would be too pleased if any reasonable arrangement of the sort could be made.

1211. You think it would be a good thing for the children as well?—Well, I have no doubt about that whatever.

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1212. *By Mr Shaw Stewart.*—Just one question on the point of a field for the children to play in. It was suggested by a former witness that, in populous places, possibly schools might group together and get a field among them on different days. If that were done, would the teachers welcome that, do you think—would they be willing to go out and help the boys in their games?—I do not think that there would be any objection on the part of the teachers; but, in any case, if it were for the benefit of the children, I do not think that the opinions of the teachers would bulk very largely in the matter.

1213. No, except so far that a great deal falls on the teacher during the week. Of course, he might do it under compulsion, or he might do it because he enjoyed it and liked it?—I think that teachers would be quite willing to favour such a scheme as that, but, of course, it would have to be by Boards you know; it could not be individual schools. Such a thing ought to be done by the Board of the place.

1214. Quite. I was speaking of groups of Board schools?—Yes.

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1215. *By the Chairman.*—You stated that the time-table was very often rather misleading. Am I correct in saying that every time-table is revised and sanctioned by you before it is applicable?—That is so.

1216. Would you explain, then, what you meant by saying misleading?—Well, drill may appear two or three times in the time-table, but this drill may be confined to a section of the school, so that it would hardly do to reason that, because drill appears perhaps three half hours in the time-table, every child in the school is getting one and a half hour's drill; it may be only three sections of the school, each getting half an hour, so that if you just merely look at the time-table—that is what I meant by saying it might be misleading if you do not have that in your mind—that it might apply only to sections.

1217. But if it might be misleading, are there any means by which that could be rectified. Do you consider it satisfactory that it possibly should be misleading, or would you prefer to leave it more or less general in terms?—Oh, I think it might be left more or less general in terms.

1218. You would hardly perhaps devote sufficient time to every individual time-table to go into the details?—I daresay we ought to do it.

1219. But, I mean, you have hardly time?—It is not easy.

1220. At the same time you do actually inspect every time-table before it is passed?—Every time-table comes under our supervision.

ectors: ld be er quali- in drill.

1221. You said also that you were not an expert in any way. I suppose you have to conduct an examination in drill the same as you do in sewing?—Or see it is conducted.

1222. Well, but practically it is you, because you are the person who reports?—I report upon what I see.

1223. Then practically you examine?—But I do not put them through their lessons, as it were. I do not myself give the word of command.

1224. But I suppose, from the frequency of these inspections that you had, that you became insensibly a sort of expert. You know that the thing is done well or badly?—Well, at any rate we institute comparisons, and know when the thing is well done.

1225. What I rather want to get at is, do you think you know sufficiently well, or do you think that perhaps inspectors coming on in the future ought to be more instructed in the matter?—Well, I should be very glad if I knew more of it, realising the importance of it as I do.

1226. For that reason you would rather that in future the inspectors should have a certain knowledge of it?—Yes.

1227. I mean at some period. Of course you cannot do these things all at once—in the far future say?—Or else have a man specially told off to look after the drill of the whole country.

1228. That would cost money, though, would it not?—Well, one man. He does not require to go to every school; he might select.

1229. When you have those inspections, if you do not like examinations—inspections of drill—do these not occur at your surprise visits?—Yes, we may ask them to be drilled at our surprise visits, just to satisfy ourselves that the instruction is regular and systematic throughout the year.

1230. Then, with regard to the physical exercises, you thought that at least very likely dumb-bells would be advisable. Who would you propose to be the deciding authority as to the weight of dumb-bells for different sized children and children of different ages?—Well, the dumb-bells that are in general use in the schools are merely wooden affairs, you know. It gives them something to hold in their hands, but the weight does not come in as a question at all. I do not think that the schoolmaster should be the man to settle the weight.

1231. You agree with me that that would be rather a question of health and scientific knowledge?—Health and scientific knowledge decidedly.

1232. And a man of skill?—Decidedly.

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1233. There is another subject that I do not think you have touched upon at all in particular, and that is the physical training of girls. Have you any views about that—I must rather take you back, I am afraid, because you have only expressed it generally; but I should like to ask you particularly, on the subject of girls, as to whether you think such training is not only necessary, but has, in your opinion, been of value?—What I said was meant to apply to both boys and girls, except in the case of the older boys, who might be taken away to the drill hall, or anything like that. I do not propose that for girls.

Girls: physical training same as for boys.

1234. You do not propose anything in the way of special training for girls; you think boys and girls, up to the age of fourteen, ought to be able to do the same, as far as you know?—As far as I am able to judge in the matter.

1235. In the inspections that you now conduct, pretty much the same is the case?—Pretty much the same. There is a form of drill for girls, I see, giving hoop drill.

1236. Yes, and what about skipping: do you ever see that?—Not in schools.

1237. Not in schools?—Not in schools. I have never seen skipping in schools, and I have not seen dancing in any of my schools, though I believe it is done in some places.

1238. You revise the time-table for drill, but you do not revise the squad drill, do you? Would it be within your power to suggest certain changes in the drill performed?—Oh, yes.

Teachers: lack of proper training.

1239. Has it ever occurred to you to suggest dancing?—Well, I have had occasion to point out that there seemed to be no point, no aim in drill in a certain school; it was altogether a feckless, fusionless affair; and what I have in my mind just now is just a sort of mere arm exercise, where it does not go beyond the arms, where the body is not thrown into it at all; and these are just the cases where the teacher has no concern, no compulsion or aim to work it up.

1240. Because they have not been trained?—Because they have not been trained.

1241. Not for want of will, but for want of experience?—From want of training, and want of knowing what to do; and that class of teachers bulks pretty largely in my district, and I hope that we shall be able to do something to remove that at any rate.

Feeding of children in towns generally worse than in country.

1242. It is very interesting to know exactly the state of affairs at the present time. Then as regards the good feeding—general good feeding in towns as well as in the country—I suppose you are aware of the unfortunate number of convictions through the agency of the Society for the Prevention of Cruelty to Children that occurred not only in Ayrshire, but also all over Scotland?—All over the country. Yes.

1243. And where in many cases the child is found to be poorly nourished, and yet such and such a child to be a school child?—Yes.

1244. You will admit that there are a great many?—Oh, there are cases; and it is a very serious social problem that must be solved in some way.

1245. You had that on your mind when you said to the Commission that the children were well fed in towns. You rather suggested that the children in towns were better fed than in the country?—No, I should think not. I should think it would be rather the other way—that there is a stratum in the towns, where the children do come poorly fed, and a very difficult class they are to deal with too. That is rather a wide subject. I do not think that the children who come from those homes are able for the effort, either physically or mentally, that the school demands from them. It is a very serious problem. I admit it fully

1246. *By Professor Ogston.*—Would you kindly allow me to put one single question. Suppose that an accident happened during the games or physical drill of any kind in a school in the neighbourhood, would it be reported to you as inspector, and by you to the Board, or would you obtain knowledge of it in any way?—Not in any way, except purely accidentally.

1247. By chance that means?—Yes; quite so.

App. III. — App. III.

No. 6—*contd.* — No. 6—*contd.*

Each defect is enumerated, whether alone or in combination with other defects.	Of 50,000 in Schools seen 1888–1891.		Of 50,000 in Schools seen 1892–1894.		Of total of 100,000 in Schools seen 1888–1894.
	Boys.	Girls.	Boys.	Girls.	Boys & Girls.
G. Exceptional Children.—Children who on account of certain observed defects may at once be said to need individual consideration	303	204	157	147	811
(76). Idiots	2	...	..	...	2
(77). Imbeciles	30	16	3	2	51
(78). Children feebly gifted mentally	89	85	49	52	275
(79). Children mentally exceptional	3	9	4	3	19
(80). Epileptics, and children with history of fits during school life	36	18	21	35	110
(81). Dumb	...	...	4	1	5
(82). Children crippled, maimed, and paralysed	175	84	75	60	374
(83). Disease of hip	21	18	11	3	56
(84). Disease of spine	25	17	11	8	61
(85). Disease of upper limb	11	2	7	3	23
(86). Disease of lower limb	13	7	11	5	36
(87). Hand maimed	...	...	2	1	3
(88). Amputation of arm	...	1	...	...	1
(89). Amputation of leg	15	8	5	1	29
(90). Congenital absence of greater part of upper limb	3	2	2	3	10
(91). Congenital absence of hand	...	4	...	...	4
(92). Congenital defect of hand	4	2	...	2	8
(93). Congenital absence of foot	...	1	1	...	2
(94). Club foot	...	...	...	...	...
(95). Hemiplegia	14	9	7	11	41
(96). Paraplegia	2	2	...	...	4
(97). Infantile palsy, upper limb	10	4	1	3	18
(98). Infantile palsy, lower limb	32	6	11	10	59
(99). Torticollis	1	1	4	5	11
(100). Blind, or nearly so	...	...	...	3	3
(101). Chorea	...	...	...	1	1
(102). Crippled by burn	...	...	2	4	6
(103). Heart disease	...	...	1	...	1
(104). Facial paralysis	1	...	..	...	1

No. 7. TABLE OF CASES SEEN 1888–91.—PROPORTIONAL DISTRIBUTION OF GROUPS OF CASES AMONG THE NATIONALITIES, SHOWING THE NUMBERS OF CHILDREN OF VARIOUS NATIONALITIES IN DIVISIONS OF SCHOOLS, AND THEIR RELATIVE CONDITION.

Percentages are taken upon the number of Children seen.

Divisions of Schools.	Number of Children seen.		Children noted.				With Defect in Development, alone or in combination.				With Nerve-signs, alone or in combination.				With Low Nutrition, alone or in combination.				With Mental Dulness, alone or in combination.			
			No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
English Children—																						
Day	16,932	15,875	3252	2379	19·2	15·0	2129	1424	12·6	9·0	1860	1351	11·0	8·5	673	760	4·0	4·8	1326	915	7·8	5·8
Poor Law	5,083	3,748	1109	647	21·8	17·3	739	449	14·5	12·1	722	366	14·2	9·9	207	89	4·1	2·4	412	261	8·1	7·0
Certified Industrial	1,012	304	214	62	21·1	20·4	145	43	14·3	14·1	128	42	12·6	13·8	11	16	1·1	5·3	103	28	10·2	9·2
Homes and Orphanages	774	1,049	172	186	22·2	17·7	107	134	13·8	12·8	112	112	14·5	10·7	14	35	1·8	3·3	68	113	8·8	10·8
Total English Children	23,801	20,976	4747	3274	19·9	15·6	3120	2050	13·1	9·8	2822	1871	11·9	8·9	905	900	3·8	4·3	1909	1317	8·0	6·3
Irish Children—																						
Day	317	293	76	48	24·0	16·4	47	32	14·8	10·9	65	34	20·5	11·6	24	19	7·6	6·5	25	19	7·9	6·5
Poor Law	801	199	223	38	27·8	19·1	149	26	18·6	13·1	167	22	20·9	11·1	29	4	3·6	2·0	98	20	12·2	10·0
Certified Industrial	576	103	286	29	49·7	28·2	184	19	32·0	18·4	204	15	35·4	14·6	30	12	5·2	11·7	120	19	20·8	18·4
Total Irish Children	1,694	595	585	115	34·5	19·3	380	77	22·4	12·9	436	71	25·7	11·9	83	35	4·9	5·9	243	58	14·3	9·7
Jewish Children—																						
Day	1,389	1,572	247	218	17·8	13·9	116	108	8·4	6·9	155	132	11·2	8·4	42	38	3·0	2·4	64	88	4·6	5·6
Grand Total, all Children	26,884	23,143	5579	3607	20·8	15·6	3616	2235	13·4	9·7	3413	2074	12·7	9·0	1030	973	3·8	4·2	2216	1463	8·2	6·3

	Cranium defect.				Palate defect.				External Ear defect.				Epicanthis defect.				Other defects.			
	No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
English Children, Day Schools	873	609	5·2	3·8	461	319	2·7	2·0	620	150	3·6	0·9	337	245	2·0	1·5	457	378	2·7	2·4
All Irish Children	190	31	11·2	5·2	80	28	4·7	4·7	117	8	6·9	1·3	37	8	2·2	1·3	132	35	7·7	5·8
All Jewish Children	47	51	3·4	3·2	16	19	1·1	1·2	42	22	3·0	1·4	4	11	0·3	0·7	33	31	2·4	1·9

No. 8. TABLE OF CASES SEEN 1892–94.—PROPORTIONAL DISTRIBUTION OF GROUPS OF CASES IN DIVISIONS OF SCHOOLS ARRANGED ACCORDING TO NATIONALITIES, SOCIAL CLASSES, LONDON BOARD SCHOOLS, ETC., SHOWING THE NUMBERS OF CHILDREN AND THEIR RELATIVE CONDITION.

Percentages are taken upon the number of children seen.

Divisions of Schools.	Numbers seen.		Development Defect, alone or in combination.				Nerve-signs, alone or in combination.				Low Nutrition, alone or in combination.				Mental Dulness, alone or in combination.				Development Defect and Nerve-signs, alone or in combination.				Development Defect, Nerve-signs and Low Nutrition, alone or in combination.				Development Defect without Nerve-signs, alone or in combination.				Nerve-signs without Development Defect, alone or in combination.			
			No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.		No. of cases.		Per cent.	
	Boys.	Girls.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.	B.	G.
Upper Social Class .	6,835	6,062	556	364	8·1	6·0	684	521	10·0	8·6	148	165	2·2	2·7	444	344	6·5	5·7	194	122	2·8	2·0	28	29	0·4	0·5	362	242	5·3	4·0	490	399	7·1	6·6
Average Social Class .	8,432	7,791	719	532	8·5	6·8	938	676	11·1	8·7	255	251	3·0	3·2	701	575	8·3	7·4	299	198	3·5	2·5	49	47	0·6	0·6	420	334	5·0	4·3	639	478	7·6	6·1
Poorer Social Class .	11,020	9,860	1033	722	9·4	7·3	1231	818	11·2	8·3	346	354	3·1	3·6	929	715	8·4	7·3	394	267	3·6	2·7	72	80	0·7	0·8	639	455	5·8	4·6	837	551	7·6	5·6
English Children . .	20,682	18,286	1749	1250	8·4	6·8	2113	1543	10·2	8·4	582	604	2·8	3·4	1605	1280	8·0	7·0	650	433	3·1	2·4	116	119	0·6	0·6	1039	817	5·3	4·5	1463	1110	7·1	6·1
Scotch Children . .	803	807	61	37	8·0	4·6	105	83	13·1	10·3	18	27	2·2	3·3	73	51	9·1	6·3	30	16	3·7	2·0	3	3	0·4	0·4	34	21	4·2	2·6	75	67	9·3	8·3
Irish Children . .	2,171	1,952	252	163	11·6	8·4	322	177	14·8	9·0	71	75	3·3	3·9	182	127	8·4	6·5	111	70	5·1	3·6	14	21	0·6	0·1	141	93	6·5	4·8	211	107	9·7	5·5
Jew Children . . .	2,631	2,668	243	168	9·2	6·3	313	212	11·9	7·9	78	64	3·0	2·4	214	176	8·1	6·6	96	63	3·6	2·5	16	13	0·6	0·5	147	100	5·6	3·7	217	144	8·2	5·4
London Board Schools .	18,623	16,738	1580	1149	8·5	6·9	1860	1380	10·0	8·2	515	567	2·8	3·4	1475	1184	7·9	7·1	575	396	3·1	2·4	104	113	0·6	0·7	1005	753	5·4	4·5	1225	984	6·6	5·9
Schools of special difficulty	1,022	996	121	75	11·8	7·5	106	86	10·4	8·6	39	43	3·8	4·3	116	98	11·3	9·8	49	25	4·8	2·5	8	7	0·8	0·7	72	50	7·0	5·0	67	61	6·5	6·1
Schools with few children in relation to accommodation	566	451	65	40	11·5	8·9	90	52	15·9	11·5	23	25	4·1	5·5	77	53	13·6	11·7	33	11	5·8	2·4	5	8	0·9	1·8	32	29	5·6	6·4	57	42	10·0	9·3
Schools not under the London Board . .	7,661	6,975	728	469	9·5	6·7	1054	635	13·7	9·1	234	203	3·1	2·9	559	453	7·3	6·5	312	191	4·1	2·7	45	43	0·6	0·6	416	278	5·4	4·0	471	444	6·1	6·4

No. 9. TABLE OF CASES SEEN 1892–94.—EXCEPTIONAL CHILDREN DISTRIBUTED INTO STANDARDS UNDER DEFECTS AND UNDER PRIMARY GROUPS, SHOWING ALSO THE TOTAL NUMBER OF CHILDREN WHO APPEAR TO REQUIRE SPECIAL CARE AND TRAINING.

The analysis was prepared by sorting the cards of these cases.

	Infants.		Standard 0.		Standard I.		Standard II.		Standard III.		Standard IV.		Standard V.		Standard VI.		Standard VII.		Total Number.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
'Exceptional Children'	46	35	5	14	37	43	15	21	13	14	19	7	3	8	10	5	5	1	153	148
Idiots	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Imbeciles	2	...	...	...	1	1	...	1	...	...	...	...	...	...	...	...	...	...	3	2
Children feebly gifted mentally	20	12	2	10	19	21	5	5	1	3	2	1	...	...	...	...	...	...	49	52
Children mentally exceptional	1	...	...	...	...	...	1	...	1	...	1	...	...	3	...	...	...	...	4	3
Epileptics	11	8	1	4	1	4	...	9	3	4	3	1	...	3	1	1	1	1	21	35
Crippled	13	12	2	3	14	17	9	9	8	7	14	5	3	3	8	4	4	...	75	60
Dumb	1	1	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	4	1
Blind, or nearly so	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Chorea	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Heart disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
Distribution of the 'Exceptional Children' into Primary Groups of Defect under Standards.																				
Symbols.																				
G with A	1	...	...	1	...	3	...	...	...	1	1	...	...	...	1	...	1	...	4	5
G ,, B	3	4	...	1	2	1	3	6	...	4	3	...	...	1	1	3	2	...	14	20
G ,, C	1	...	1	...	1	1	...	...	1	...	...	...	...	...	...	1	...	1	4	3
G ,, D	6	3	1	1	3	5	4	...	1	4	6	1	...	4	1	...	1	...	22	18
G ,, AB	1	...	1	...	...	2	...	2	2	...	1	...	...	...	1	...	...	...	6	4
G ,, AC	1	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	3	...
G ,, AD	4	1	...	2	4	2	...	...	...	...	...	...	1	...	2	...	...	...	11	5
G ,, BC	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
G ,, BD	9	8	...	4	12	10	2	6	2	3	1	3	...	1	...	...	...	...	26	35
G ,, CD	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
G ,, ABC	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
G ,, ABD	9	5	2	3	6	7	4	2	2	1	...	...	...	1	...	...	...	...	23	19
G ,, ACD	...	...	...	...	...	4	...	...	1	...	...	...	...	...	...	...	...	...	1	4
G ,, BCD	1	...	...	1	1	3	...	1	...	...	...	...	...	...	...	...	...	...	2	5
G ,, ABCD	4	5	...	...	2	4	1	...	...	...	...	...	...	...	...	...	...	...	7	9
G ,, EF or G	6	7	...	...	6	...	1	4	4	1	7	3	2	1	3	1	1	...	30	1
Total	46	35	5	14	37	43	15	21	13	14	19	7	3	8	10	5	5	1	153	148
To the line above may be added the cases not already included as 'Exceptional Children'	21	19	5	5	27	34	5	5	8	3	4	2	2	1	1	1	...	...	73	70
Children requiring special care	67	54	10	19	64	77	20	26	21	17	23	9	5	9	11	6	5	1	226	218

App. III. No. 10.

No. 10. TABLE OF CASES SEEN 1892–94.—EXCEPTIONAL CHILDREN, DISTRIBUTED INTO AGE-GROUPS UNDER DEFECTS AND UNDER PRIMARY GROUPS, SHOWING ALSO TOTAL NUMBER OF CHILDREN WHO APPEAR TO REQUIRE SPECIAL CARE AND TRAINING.

This table is arranged on the same general plan as the last.

	3 and under.		4.		5.		6.		7.		8.		9-10.		11-12.		13.		14 and over.		Total Numbers.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
'Exceptional Children'	2	...	6	6	11	5	12	19	14	20	17	16	33	30	33	31	18	10	7	11	153	148
Idiots	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Imbeciles	...	...	...	...	...	...	1	...	...	...	1	...	1	1	...	...	...	...	...	1	3	2
Children feebly gifted mentally	1	...	3	3	4	1	4	6	6	9	8	10	9	9	8	9	4	1	2	4	49	52
Children mentally exceptional	...	...	...	...	...	...	1	...	...	...	...	...	3	...	...	2	...	...	...	1	4	3
Epileptic	...	...	1	...	2	3	3	6	4	...	2	5	3	10	2	3	4	4	...	4	21	35
Crippled	1	...	2	3	5	1	2	6	4	9	6	1	18	13	20	17	11	6	6	4	75	68
Dumb	...	...	...	...	...	...	1	1	...	...	1	...	...	...	2	...	...	...	...	...	4	1
Blind, or nearly so	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	3
Chorea	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Heart disease	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...
Distribution of the 'Exceptional Children' into Primary Groups of Defect under Age-groups.																						
Symbols.																						
G with A	...	...	...	...	...	...	1	...	...	4	...	...	1	...	1	1	1	...	...	...	4	5
G ,, B	...	...	1	1	1	...	...	2	1	1	1	2	4	5	4	6	1	2	1	1	14	20
G ,, C	...	...	1	...	...	...	1	...	...	...	...	...	2	1	...	1	...	1	...	...	4	3
G ,, D	...	...	...	...	2	1	3	2	2	1	1	4	3	3	7	3	3	2	1	2	22	18
G ,, AB	1	...	...	...	...	...	...	2	...	...	...	...	1	...	3	2	1	...	...	...	6	4
G ,, AC	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	1	...	3	...
G ,, AD	...	...	2	...	1	...	1	1	1	1	...	1	1	1	2	1	2	...	1	...	11	5
G ,, BC	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
G ,, BD	...	...	1	1	2	...	3	4	2	6	8	2	5	9	3	6	2	3	...	4	26	35
G ,, CD	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
G ,, ABC	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2
G ,, ABD	...	...	1	2	2	1	1	...	2	3	3	3	7	4	4	4	2	1	1	1	23	19
G ,, ACD	...	...	...	...	...	...	...	1	...	1	...	...	...	1	...	1	...	...	1	...	1	4
G ,, BCD	...	...	...	...	...	...	1	...	...	1	...	2	1	1	...	...	...	1	...	...	2	5
G ,, ABCD	1	...	...	1	1	...	...	4	2	1	...	2	1	...	2	1	...	...	...	...	7	9
G ,, EF or G	...	...	...	1	1	2	1	2	4	1	4	...	6	3	7	5	6	...	1	3	30	17
Total	2	...	6	6	11	5	12	19	14	20	17	16	33	30	33	31	18	10	7	11	153	148
To the line above may be added the cases not already included as 'Exceptional Children'	2	3	4	5	5	7	9	8	9	16	17	7	17	16	8	6	2	1	...	1	73	70
Children requiring special care	4	3	10	11	16	12	21	27	23	36	34	23	50	46	41	37	20	11	7	12	226	218

Extracts from the Report on the Physical and Mental Condition of 50,000 Children seen in 106 Schools in London, by Dr Warner. App. III.

TABLE OF CHILDREN CRIPPLED, MAIMED, OR DEFORMED (NOT EYE CASES). 50,000 LONDON SCHOOL CHILDREN. No. 11.

	Boys.	Girls.	Total.
Disease of hip, in various stages, mostly healed	24	18	42
Disease of spine, in various stages, mostly healed	25	17	42
Contracted knee-joint	6	3	9
Crippled from disease or injury of upper extremity, not included in other groups	11	2	13
Crippled from disease or injury of lower extremity	7	4	11
Leg amputated	15	8	23
Arm amputated	...	1	1
Congenital absence of greater part of upper extremity	3	2	5
Congenital absence of hand	...	4	4
Congenital defect of make of hand	4	2	6
Infantile paralysis of upper extremity	10	4	14
Infantile paralysis of lower extremity	32	6	38
Hemiplegia	14	9	23
Paraplegia	2	2	4
Wry neck	1	1	2
Congenital absence of foot	...	1	1
Facial paralysis	1	...	1
Total	155	84	239
Cripples from congenital defect	7	9	16
Cripples from disease or injury	88	53	141
Cripples from paralysis	60	22	82
Total	155	84	239

TABLE OF CASES CRIPPLED OR MAIMED (NOT EYE CASES). No. 12.

Disease, Injury, Defect, or Paralysis, etc.	Union Schools.			Certified Industrial Schools.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
Disease of hip, in various stages, mostly healed	9	3	12	...	1	1
Disease of spine, in various stages, many healed	10	5	15	...	...	...
Disease of spine, in various stages, mostly healed	...	...	...	2	1	3
Contracted knee-joint	1	...	1	1	...	1
Crippled from disease or injury of upper extremity	7	1	8	1	...	1
Crippled from disease or injury of lower extremity, not included in other groups	3	1	4	...	...	...
Leg amputated	7	...	7	...	...	...
Congenital absence of greater part of upper extremity	1	1	2	...	...	...
Congenital absence of hand	...	1	1	...	...	...
Defect in make of hand	2	...	2	...	...	...
Infantile paralysis of upper extremity	3	2	5	...	...	...
Infantile paralysis of lower extremity	13	4	17	1	...	1
Hemiplegia	7	2	9	...	...	...
Paraplegia	...	1	1	...	...	...
Facial paralysis	1	...	1	...	...	...
Total	64	21	85	5	2	7

Disease, Injury, Defect, or Paralysis, etc.	Homes and Orphanages.			Public Elementary Schools, etc.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
Disease of hip, in various stages, mostly healed	2	3	5	13	11	24
Disease of spine, in various stages, many healed	4	5	9	...	...	...
Contracted knee-joint	...	1	1	4	2	6
Crippled from disease or injury of upper extremity	1	...	1	...	...	...
Crippled from disease or injury of lower extremity, not included in other groups	1	1	2	...	...	...
Leg amputated	4	3	7	4	5	9
Congenital absence of hand	...	1	1	...	2	2
Infantile paralysis of lower extremity	5	...	5	...	...	...
Hemiplegia	...	2	2	7	5	12
Paraplegia	2	1	3	...	...	...
Wry neck	...	1	1	1	...	1
Disease of spine, in various stages, mostly healed	...	...	...	9	6	15
Crippled from disease or injury of upper extremity, not included in other groups	...	...	...	2	1	3
Crippled from disease or injury of lower extremity	...	...	...	3	2	5
Arm amputated	...	...	...	...	1	1
Congenital absence of greater part of upper extremity	...	...	...	2	1	3
Congenital defect in make of hand	...	...	...	2	2	4
Infantile palsy of upper extremity	...	...	...	7	2	9
Infantile palsy of lower extremity	...	...	...	13	2	15
Congenital absence of foot	...	...	...	...	1	1
Total	19	18	37	67	43	110

Mr Alan Tuke, M.B., C.M.

1 May '02.

the time in the ordinary schools that you thought ought to be devoted to this work was twenty minutes daily for the infants, and forty minutes for the older classes?—Up to forty minutes for the older classes. I would make forty minutes the limit.

Physical training: time to be devoted *per diem*.

1396. Are you aware of any school where it even approaches that amount?—No, none of them.

1397. Forty minutes of drill is a good deal?—It is not continuous drill.

1398. How would you break it up?—I would break it up: in the infant department, say twenty minutes—5, 5, 5, with a five minutes' interval broken up in between; that is actually fifteen minutes' drill.

1399. How would you break up the forty minutes?—Supposing they had five minutes.

1400 Five minutes' drill?—Five minutes' marching; that would include taking as it stands here, marching and marching on tip-toes.

1401. I am not speaking of what it would include; but would you just explain how the time would be broken up; you would give them five minutes?—Of marching and marching on tip-toe.

1402. How long interval?—Supposing you give them two minutes' interval after that, then five minutes of the free exercises, and then a short march at the finish; the twenty minutes would be left to the discretion.

1403. The forty minutes would cover an hour and a half a day of school time at that rate?—No; forty minutes, as they get up to the other classes; the whole thing forty minutes.

1404. Forty minutes, broken up as you describe, would mean an hour and a half?—I want the twenty minutes, from start to finish, to include the interval, and the forty minutes includes the intervals.

1405. *By Mr Fergusson.*—When you said that physical training was haphazard and a waste of time, were you speaking of your knowledge of Dunfermline only, or have you any knowledge of schools all over the country?—My statement was made simply as I have seen it carried out in my own town of Dunfermline, which I am referring to want of system.

1406. Though you said you admitted that an untrained person who went to look at this work might find it taking to the eye?—Yes.

Inspectors: must be properly trained.

1407. I suppose that means that you think an untrained eye is not capable of understanding the niceties of physical training?—I do not think an untrained eye is able to see whether those movements that the pupils are doing are actual beneficial movements or not; that a person who is going to inspect them must be an inspector of physical training, as he is of reading, writing, and arithmetic.

1408. I suppose you would say that though any of H.M. Inspectors who are not trained to physical exercise report that the training looks well, it does not follow that it is correct; they are not sufficiently expert in training to know?—They are not experts; that is the difficulty, they are not experts.

Instructors, to teach teachers and pupils.

1409. In your answer as to instructors, were you dealing with the instructors who were to teach the children in schools, or the instructors who were to teach the schoolmasters?—I want an instructor to be over all the teachers and the pupils as well—an inspector, to see that the teachers, first of all, know their work thoroughly, and are carrying out their work thoroughly.

1410. That is, a man who goes to the school now and again?—Who would go to the school regularly once a fortnight—go round every class once a fortnight.

1411. And that man, you say, should be a specially trained man; you do not like an old soldier?—I do not.

1412. When you said that, I suppose you meant a man who had been a drill-sergeant; you want an Aldershot-trained man, such as you find in a military gymnasium?—The instruction there is, I believe, splendid; exactly.

Scheme of work proposed: when to be done.

1413. You gave us a scheme of work divided into classes?—Yes.

1414. May I ask you, how did you arrive at that scheme—did you make it for the purpose of to-day, or had you seen it in practice?—Well, that is one we have been following out for some time in the gymnasium as we have it at present; of course it is somewhat difficult there to class your children exactly as you want, but undoubtedly the infants must be handled lightly and gently. It seemed to me that by dividing them into six, one could best divide up the children as to their physical strength.

1415. But you have evolved that out of your experience?—Yes.

1416. It interested me because, curiously enough, it is exactly—you could not have stated it more exactly—the system of training we have adopted in a school of which I have some knowledge?—Is that so. In this I have some great assistance from our gymnasium instructor, who is a man of great ability.

1417. You said nothing about gymnastic work—applied gymnastics—do you consider that is not desirable for children of fourteen?—Well, I have got a note here as regards that. I said in class C, dumb-bells to be made of wood, and, if possible, once a week gymnasium, to make a pleasant break and induce further attendance there. If once a week the senior class were to come to the gymnasium, and there take advantage of the apparatus, I think that would have a good effect to have the apparatus most carefully applied to them, and it might make them a little brighter and throw some interest in it, and in fact make them take to it.

1418. There was another point, because there seems to me a practical difficulty in carrying out what you suggest. You say the work should be done in the morning?—Yes.

1419. And never at the end of class time?—

1420. *By the Chairman.*—I think he said never when the children were tired?—I said never when the children were tired.

1421. *By Mr Fergusson.*—I suppose you mean by that about the end of lesson time?—My idea of doing it in the morning is, the children come into the school cold, and by giving them the advantage of physical training, it seems to me, you create a good healthy warmth in them. That would be in winter.

1422. That would be for the ordinary training done by the teacher?—Yes.

1423. But then the regular instructor comes once a week?—That would be an exception.

1424. You would not insist on doing his hour in the morning. You see the practical difficulty?—You could not take anything so good in the morning in the winter time; it would warm the children up and put their circulation in good condition, and in the summer time, if possible, in the open air, outside, in the playground.

Medical examination occasionally desirable.

1425. Of course to carry out all this grading of children, and not give them work which is past their strength, you would require some system of medical examination?—Yes, and I may also say in the grading; there is one point I want to bring out there. After grading the young children, if I found any with spinal curvature, I would take them all out and send them, if possible, to the gymnasium to be put under the expert, because it seems to me by doing that one might stop very often spinal curvature. The child might lose a certain amount of its school, but certainly it might have a straight back. You see what I mean—that a young child who really showed signs of weakness, and physical training would affect it, I would send those children to the instructor, who is a trained man.

1426. Do you not think that the ordinary schoolmaster and schoolmistress, men and women who are accustomed to children and know about children, seeing these children every day, may be safely trusted to see for themselves the weak ones and to pick out the weak ones?—Yes.

1427. And do you think it is necessary to have a doctor to come and examine all these children at short intervals?—No. I do not know that it is absolutely essential to have a doctor coming round examining them, but I think it would be a very good thing at the beginning of each term if some medical advice were given as to grading the children.

1428. But not very frequently?—No. You do not want a doctor trotting about constantly; I should go at the beginning of each term. I think it would be wise, especially at the beginning of such a system, until it got into working order.

1429. *By Mr Alston.*—Is it correct to classify these branches of exercise as physical exercises, gymnastics, and drill—does that cover the ground, would you say?—Well, physical exercises—gymnastics and drill. I should be perfectly pleased if physical exercises were carried out thoroughly alone.

1430. What do you include under physical exercises?—Oh, every exercise, including marching, step marching, and what is known as the free exercises, dumb-bells, bar-poles, Indian clubs. The apparatus I do not look upon as essential, but I look upon it as a very useful agent; but the essential parts I lay down are the free exercises, in their fullest extent.

1431. And you think the term 'physical exercise' covers that ground?—Ought to cover that amount.

1432. That was without music, I suppose?—That was without music.

1433. Then you use the word 'gymnastics.' Does that mean with apparatus?—Gymnastics distinctly brings in the apparatus.

1434. Then, apart from marching and wheeling in military exercises, you still think you deal with drill?—I still think I deal with drill, undoubtedly.

1435. In the evolutions of bodies of boys and girls? and these three terms do cover the ground under physical exercises?—Completely cover the ground.

1436. You would say that those who instruct in these departments should be thoroughly conversant with the work?—Thoroughly conversant with the work.

1437. You are dead against what may be called the old-soldier janitor?—Oh, impossible; absolutely no use.

1438. Then would it be possible to teach the male and female teachers in a school to instruct thoroughly?—Quite possible. It will not come all at once—in time it will come. Get first a good course. Take an outsider, and keep up to the mark—keep thoroughly up to the mark, not only in any new drill that may come out, but in the mode of instruction, because in the course of instruction they actually have to do the drill themselves and to instruct a whole class of 20, and every one of those 20 instruct the other 19.

1439. By whom should the teachers be instructed?—By a qualified instructor in the department.

1440. Appointed by whom?—Well, appointed by—it would be very much better if they were appointed by authorities.

1441. You mean the Government, the War Office, or the School Board?—The Government—the School Board—those in charge of scholastic affairs.

1442 No matter who appointed him, he should be a first-class instructor—an Aldershot instructor?—It is, no doubt, a splendid school.

1443. And you think the teachers, male and female, could be brought to perfection as instructors?—I do not see why in time they could not be made as good inspectors of physical training as they are of reading, writing, and arithmetic.

1444. Would it not be an advantage to have some teachers who teach the children other branches, teach them physical training, thus having the children always under their care?—It would be no disadvantage in knowing the children, while they would be able to bring them forward in their various mental attainments as well as in their physical.

1445. Therefore you would not require to bring in the outsider?—Except as the inspector.

1446.—Would it necessitate dispensing with many sergeants and non-commissioned officers who are now instructors in Scotland, many of whom are very competent?—Surely those non-commissioned officers in schools are janitors as well.

1447. No, not necessarily; they are brought in from the outside. Why should they not be instructed as well?—Well, they are supposed to have been instructed.

1448. They are purely in a military system?—Yes. You do not want to see a boy at ten or eleven with a stiff military march, fingers sticking hard down. I think that is objectionable. I want to see him light, agile and quick.

1449. The man I have in view is a non-commissioned officer who has not long left the army, who instructs the boys and girls in these schools?—If he is a capable instructor.

1450. Oh, very capable?—That is the man you want.

1451. He would be a certificated instructor?—A certificated instructor.

1452. And from those certificated instructors the male and female teachers could get certificates and go as instructors in various schools?—Along with a course of lectures in anatomy and physiology by a medical man, who trains them in that department.

1453. Then it follows from that that the ordinary school inspectors practically know nothing about it?—That is quite true. Ordinary school inspectors know nothing of subject because not experts.

1454. He may from observation have gathered up certain details?—He is not an expert.

1455. He is not an expert?—He is not an expert as he is in their mental attainments.

1456. But the other method would cost something, but it would be workable?—I look on the scheme as being, comparatively speaking, a cheap scheme.

1457. I think we may argue that too; we may come to that too.—I cannot say that it is a very expensive scheme; each district with a number of schools requires a thoroughly qualified instructor—I cannot see a much cheaper one.

1458. If it is not that old soldier, at any rate it is not merely the retired military non-commissioned officer who is suitable, unless he is competent to instruct?—Unless he is competent to instruct.

1459. On the other point, after school age, would it be a distinct advantage for the race that boys and girls after school age should receive any inducement to go on with physical exercise and gymnastics, and in the case of boys, to be put through a thoroughly complete military drill, say company drill, and its changes?—Yes, I think it would be of the very greatest advantage—I do indeed, after the age of fourteen—between the ages of fourteen and eighteen. Boys between fourteen and eighteen: desirable they should continue physical training: girls also.

1460. You would go on with the girls with suitable exercises?—With suitable exercises.

1461. In the case of a boy of that age, military, as far as company drill, would be an excellent training?—Yes, and that includes free exercises in that full physical training?—Yes, it might take all that; but I was thinking of a complete military drill, as distinguished from free drill and marching,—that is to say, company drill, such as the Boys' Brigade.

1462. Such as the Boys' Brigade?—Yes. I think part of the time might be spent in that, but all other part might be a great deal better spent in the physical training and free exercise, and the various forms of free exercises, which are numerous.

1463. Would you have ambulance?—Yes, but not from the point of physical training. As a point of usefulness you might have ambulance.

1464. Still, it is all a part of training the boy to be alert and thoroughly useful?—And thoroughly useful.

1465. We may gather from your remarks, then, all that would be worth the cost?—I think it would be amply worth the cost.

1466. *By the Chairman.*—One or two questions—some of them have been rather overtaken by other gentlemen. About the question of the feeble health of children in Scotland, I rather think Mr Fergusson touched upon it; he asked two questions upon that; I wanted to ask you in regard to your knowledge of people in feeble health, how do you know?—Well I judge of that first of all from my knowledge as a general practitioner, having to see a large number of people constantly.

1467. The second question is, how do the authorities know?—They do not know.

1468. That is so?—Yes.

1469. What is your opinion about the value of swimming?—A most excellent form of physical training. Swimming: excellent form of physical training.

App. IV. APPENDIX IV. App. IV.

Extract from Army Form B. 215, handed in by Lieut.-Col. W. G. Don, M.D., A.M.S. [*See Vol. II., Minutes of Evidence, Questions* 8026–8093.]

Annual Return of Recruits enlisted for the Regular Forces, during the Year from 1st January 1901 *to 31st December* 1901.

Station.—St George's Barracks, London.

	Inspections of Recruits.		
	Inspected.	Rejected.	Found Fit.
Total number of Recruits	12,292	3,908	8,384
		31·79%	68·21%

Causes of Rejection in Classes—	Rejections.	
		Per cent.
1. Syphilis	21	·17
2. Tubercle	...	...
3. Impaired constitution and debility	13	·10
4. Other general diseases	50	·40
5. Diseases of nervous system	3	·02
6. Weakness of intellect	24	·19
7. Defective vision	457	3·71
8. Diseases of eyes and eyelids	18	·14
9. Diseases of nose and mouth	30	·24
10. Disease of ears	57	·46
11. Deafness	143	1·16
12. Impediment of speech	29	·23
13. Disease of heart	147	1·19
14. Disease of arteries (Aneurysm)	...	...
15. Disease of veins (Varix)	369	3·00
16. Disease of lungs (except Tubercle)	3	·02
Carry forward	1364	11·03

Causes of Rejection in Classes—	Rejections.	
		Per cent.
Brought forward	1364	11·03
17. Loss or decay of many teeth	322	2·61
18. Hernia	144	1·17
19. Laxity of abdominal rings	4	·03
20. Hæmorrhoids	7	·05
21. Diseases of the urinary organs	1	·008
22. Varicocele	167	1·35
23. Other diseases of the genital organs (not syphilitic)	7	·05
24. Defects of upper extremities from fracture, contraction, luxation, etc.	38	·30
25. Defects of lower extremities from fracture, contraction, luxation, etc.	105	·85
26. Flat feet	58	·47
27. Diseases of joints	2	·01
28. Other affections of bones and muscles	7	·05
29. Ulcers, wounds, and cicatrices	15	·12
30. Other affections of the cutaneous system	52	·42
31. Malformation of ears	...	...
32. ,, nose and mouth	...	...
33. ,, chest and spine	64	·52
34. ,, urinary or genital organs	11	·08
35. Under height	311	2·53
36. Under chest measurement	607	4·93
37. Under weight	600	4·88
38. Apparent age not in accordance with regulations	16	·13
39. Not likely to become an efficient soldier	6	·04
40. Over height	...	...
Total rejected	3908	31·79

APPENDIX V.

App. V. App. V.

Tables prepared by Mrs Bryant, Headmistress of North London Collegiate School for Girls. [*See Vol. II.; Minutes of Evidence, Questions* 8576–8679.]

I.

Average Measurements for the different ages of pupils in the North London Collegiate School for Girls, as taken on the first examination after entry, from May 1893 to May 1902.

Age.	Height.	Weight	Chest Girth.	Waist.	No. of Obs.
10	53·05	68·00	25·00	22·01	57
11	56·60	78·50	26·10	22·70	66
12	57·91	84·14	27·17	23·55	88
13	59·82	91·69	27·91	24·66	110
14	61·66	105·48	29·14	24·01	129
15	62·42	112·43	29·87	23·90	151
16	62·44	114·54	29·57	24·13	131
17	62·46	120·66	29·90	24·38	42
18	62·15	121·00	30·07	24·67	8

The rate of increase in these measurements does not correspond at all to the average rate of growth in the girls, since the measurements are taken in all cases soon after entry. To illustrate this distinction, the following table of average heights of girls in school now is given, and shows a higher rate of increase. The rates of growth of the girls as they pass up the school is clearly higher than this. The reason is, no doubt, that the children who enter early are, on the whole, more wealthy.

Table showing the heights at different ages of 394 girls from the North London Collegiate School for Girls, measured on the 11th and 12th June 1902.

Age.	No. of Cases.	Average Height in Inches.
8	2	45·75
9	5	52·25
10	5	53·55
11	13	55·19
12	33	58·13
13	42	60·65
14	57	61·71
15	64	62·92
16	74	62·99
17	60	62·75
18	32	63·09

II.

Percentages of cases requiring physical treatment or care of different kinds, among 1330 pupils entering the North London Collegiate School between May 1893 and May 1902.

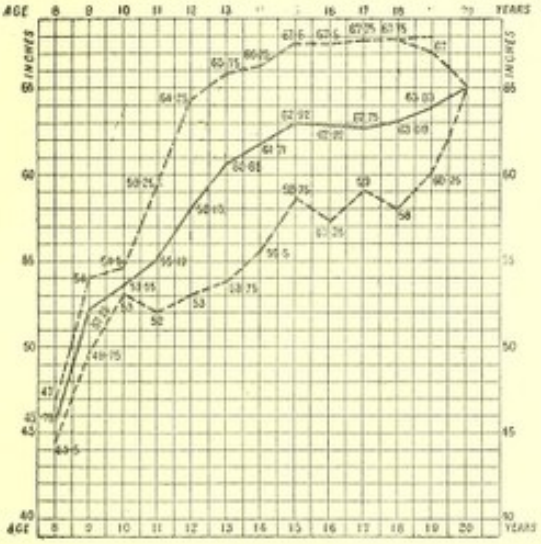
* Restricted in exercise on account of weakness of heart or lungs (often temporary).	4 per cent.
* Restricted for other reasons, *e.g.*, anæmia or imperfect convalescence.	1 per cent.
Requiring special physical training for shorter or longer periods of time.	30 per cent.
Defects of eyesight of all kinds.	33 per cent.
Feet rather flat.	35 per cent.

* The number in school at any given time thus restricted is smaller than the above figures indicate, because of the improvement which is soon manifest, owing to the remedial exercises.

CHART and TABLE showing heights at different ages of 394 girls from the North London Collegiate School for Girls, measured on the 11th and 12th June 1902. App. V.

Average heights at each age shewn in broad line.

Greatest and lowest heights at each age shewn in dotted line.



Ages.	No. of Cases.	Average height. Inches.	Greatest height. Inches.	Lowest height. Inches.
8	2	45·75	47	44·5
9	5	52·25	54	49·75
10	5	53·55	54·5	53
11	13	55·19	59·25	52
12	33	58·13	64·25	53
13	42	60·65	65·75	53·75
14	57	61·71	66·25	55·5
15	64	62·92	67·5	58·75
16	74	62·99	67·5	57·25
17	60	62·75	67·75	59
18	32	63·09	67·75	58
19	6	63·83	67	60·25
20	1	65	65	65

APPENDIX VI. App. VI.

Tables prepared by Mr H. Rippon Seymour, Gymnastic Instructor to George Watson's College, Edinburgh. [*See Vol. II., Minutes of Evidence, Questions* 10,918–11,013.]

TABLE OF MEASUREMENTS,

Showing increase made in pupils of various ages during periods stated against their names.

Names and Ages.	Neck.		Chest. Minim.		Chest. Maxim.		Chest. Normal		R. Upper Arm.		R. Forearm.		L. Upper Arm.		L. Forearm.		Waist.		Dates.	
	Ins.	8ths.	Ins.	8ths.	Ins.	8ths.	Ins	8ths.	Ins.	8ths.	Ins.	8ths.	Ins	8ths.	Ins.	8ths.	Ins.	8ths.		No. of Weeks
8 years. F. A.	10	7	26	3	28	0	25	4	7	6	7	7	7	5	7	5	20	1	10.2.99	
	11	1	26	4	30	1	27	0	8	3	8	1	8	0	7*	7	20	0	11.5.99	13
	0	2	0	1	2	1	1	4	0	5	0	2	0	3	0	2	0*	1	Increase,	
9 years. G. B.	11	0	24	0	28	5	26	5	7	5	7	5	7*	5	7	3	21	0	10.10.98	
	11	1	26	0	30	5	27	6	9	0	8	1	8	6	8	0	21	3	11.5.99	29
	0	1	0	0	2	0	1	1	1	3	0	4	1	1	0	5	0	3	Increase,	
11 years. J. F. B.	11	2	26	5	29	0	28	1	8	1	7	7	8	1	7	6	21	1	10.10.98	
	11	4	26	4*	31	3	29	4	9	5	8	4	9	3	8	3	21	2	11.5.99	29
	0	2	0*	1	2	3	1	3	1	4	0	5	1	2	0	5	0	1	Increase,	
18 years. T. S.-B.	14	6	30	5	36	2	34	0	11	5	10	5	11	1	10	4	28	1	17.9.00	
	15	0	30	7	38	0	34	7	12	3	11	5	12	2	11	1	28	3	13.12.00	12
	0	2	0	2	1	6	0	7	0	6	1	0	1	1	0	5	0	2	Increase,	
20 years. W. T.	14	0	32	0	36	2	32	6	10	2	9	3	10	2	9	2	27	2	9.10.00	
	14	2	32	0	37	2	34	4	11	6	10	2	11	2	10	1	27	1	11.1.01	13
	0	2	0	0	1	0	1	6	1	4	0	7	1	0	0	7	0	1*	Increase,	
24 years. T. C. G.	14	0	31	1	32	5	31	7	9	1	8	7	9	0	8	5	27	5	10.10.99	
	15	1	31	6	37	0	35	1	11	2	10	1	11	0	10	0	28	0	11.4.00	26
	1	1	0	5	4	3	3	2	2	1	1	2	2	0	1	3	0	3	Increase,	
15 years. T. J. M.	11	0	26	6	29	6	27	1	8	4	8	3	8	4	8	4	23	0	14.10.01	
	11	2	26	6	31	4	29	1	9	1	8	6	8	7	8	5	23	1	19.12.01	10
	0	2	0	0	1	6	2	0	0	5	0	3	0	3	0	1	0	1	Increase,	
30 years. R. P. K.	13	1	29	7	33	6	32	2	10	0	9	3	9	7	9	3	27	5	8.1.01	
	13	5	31	0	35	1	33	2	10	7	9	6	10	5	9	4	27	7	8.4.01	13
	0	4	1	1	1	3	1	0	0	7	0	3	0	6	0	1	0	2	Increase,	

* Decreases.

APPENDIX VII.

App. VII. **Extracts from the Final Report (1882-3) of the Anthropometric Committee appointed by the British Association in 1875.** App. VII.

[*See* VOL. II., *MINUTES OF EVIDENCE, QUESTIONS* 724-984.]

TABLE VII.—Showing the STATURE and WEIGHT of Adult Males (age 23-50 years) under different conditions of life.

	Number.	Ft. in.	Lbs.
Scotch Agricultural Population, Galloway	75	5 10·5	173·6
Metropolitan Police	192	5 10·1	185·7
Fellows of the Royal Society	98	5 9·76	...
Yorkshire Fishermen, Flamboro'	68	5 8·71	166·8
Athletes (running, jumping and walking)	89	5 8·34	143·7
Scotch Lead-miners, Wenlockhead	92	5 8·43	163·9
London Fire Brigade	69	5 7·40	160·8
Durham Coal-miners	51	5 6·38	152·4
Edinburgh and Glasgow Town Population	32	5 6·35	137·2
Welsh Lead-miners, Cardigan	328	5 6·30	155·2
Sheffield Town Population	100	5 5·80	142·5
Bristol Town Population	300	5 5·77	142·4
Lunatics, General Population	1409	5 5·70	147·9
Criminals, General Population	2315	5 5·69	140·4
Hertfordshire Labourers	174	5 5·35	145·0
Idiots and Imbeciles	19	5 4·87	123·0

TABLE VIII.—Showing the STATURE and WEIGHT of Adult Male Criminals and Lunatics, compared with that of the General Population.

Classes.	Height. Ages.				Weight. Ages.			
	20 to 25.	25 to 35.	35 to 45.	45 to 55.	20 to 25.	25 to 35.	35 to 45.	45 to 55.
General:	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
Average population	67·5	67·9	67·9	67·9	146·2	156	162	163·8
Class 3: country labourers	67·2	67·5	67·5	67·8	149·5	157·4	161·2	166·4
Class 4: town artisans	66·5	66·6	66·9	66·6	139	147·3	154·1	148·6
Criminals	65·2	65·6	65·7	65·8	136·9	140	141·4	143·4
Lunatics	65·7				147·9			

40. When compared with the general population, lunatics show a deficiency of stature of 1·96 inches, and of weight 10·3 lbs.; and criminals of 2·06 inches, and 17·8 lbs., indicating a deficiency of physical as well as mental stamina in both these unfortunate classes of society. In respect to complexion, lunatics show an excess of 5 per cent. of light eyes with dark hair, and criminals of 10 per cent. of dark eyes with dark hair over the general population.

41. As an example of the relation of high mental to physical qualities, the stature of ninety-eight Fellows of the Royal Society is given. Their average stature is slightly above (0·38 inch) that of the professional classes of this country, to which the majority of them belong.

42. As an example of high physical qualities as developed by training, the measurements of eighty-nine professional and amateur athletes are given. Their average stature exceeds that of the general population from which they are drawn by 0·68 inch, while their average weight falls short of that standard by 14·5 lbs. The ratio of weight to stature is, in the athletes, 2·100 lbs., and in the general population 2·323 lbs., for each inch of stature. Thus a trained athlete whose stature is 5 feet 7 inches should weigh 10 stone, while an untrained man the same height should weigh 11 stones.

43. The statures of the Metropolitan Police and the London Fire Brigade are given as selected men of the working classes. The former exceed the criminal class, with whom they have to deal, in stature by 4·5 inches and in weight by 45·3 lbs. The men of the Fire Brigade are selected for their activity and general fitness to meet sudden and trying demands on their physical and mental energies. The data referring to them may be accepted, therefore, as typical of the best physique which can be obtained for an English army, and of which our army should consist at its best.

CHILDREN AND ADULTS OF BOTH SEXES.

51. A large portion of the statistics collected by the Committee refer to children, and these, together with those referring to the adults already considered in the early part of this Report, have been arranged in Tables XV. to XXV. to show the influence of age, sex, nature, occupation, and sanitary surroundings on the physical development of the British population. The children are chiefly those of English parents, as few returns have been received from other parts of the kingdom. All classes of the community are represented, from the upper and professional classes whose children attend the Public Schools, like Eton, Marlborough, and Radley, to the poorest town population, whose children are found in the public elementary (or Board) schools, charitable institutions, and industrial schools. The adults also

include all classes from the Universities of Oxford and Cambridge, to town labourers and factory operatives.

52. In deciding upon the arrangement for practical purposes of returns so varied in their origin, and yet consisting in so large a proportion of information derived from special sources, the first consideration has been to establish a classification of the returns according to the *media* or influences which have been instrumental in differentiating one class from another. The Committee has adopted the subjoined scheme, prepared by Mr Roberts, and first brought before the association in a paper read in the Anthropological Section in 1878. It is based on the principle of collecting into a standard class as large a number of cases as possible which imply the most favourable conditions of existence in respect to fresh air, exercise, and wholesome and sufficient food —in one word, nurture—and specialising into classes which may be compared with this standard those which depart more or less from the most favourable condition. By this means, in respect to social condition, the influence of mental and manual work; in respect to nurture, the influence of food, clothing, etc., on development; in respect to occupation, the influence of physical conditions; and in respect to climate and sanitary conditions, the influence of town and country life may be determined.

53. The classification has been constructed on the physiological and hygienic laws which are familiar to the students of sanitary science, and on a careful comparison of the measurements of different classes of the people, and especially of school children of the age of from eleven to twelve years. This age has been selected as particularly suited to the study of the *media* or conditions of life which influence the development of the human body, as it is subject to all the wide and more powerful agencies which surround and divide class from class, but is yet free from the disturbing elements of puberty and the numerous minor modifying influences, such as occupation, personal habits, etc., which in a measure shape the physique of older boys and adults. The data on which the classification has been based are given below. The most obvious facts which the figures disclose are the check which growth receives as we descend lower and lower in the social scale, and that a difference of five inches exists between the average statures of the best and the worst nurtured classes of children of corresponding ages, and of 3½ inches in adults.

TABLE XII.—CLASSIFICATION of the British Population according to *Media*—Occupation and other Conditions of Life.

*Social Condition.**—Non-labouring Classes.		Labouring Classes.			
Nurture.†—Very good.	Good.	Imperfect.		Bad.	
Professional Classes ‡ (Upper and Upper Middle Classes), 4·46 per cent.	Commercial Class (Lower Mid. Classes), 10·36 per cent.	Labourers, 47·46 per cent.	Artisans, 26·82 per cent.	Industrial Classes (Sedentary Trades), 10·90 per cent.	Selected Classes.
Out-door.§ Country. / In-door. Towns.	In-door. Towns.	Out-door. Country.	In-door. Towns.	In-door. Towns.	
CLASS I. Country Gentlemen. Gentlemen-farmers. Officers of Army and Navy. Auxiliary Forces. Clergymen. Lawyers. Doctors. Civil Engineers. Architects. Dentists. Civil Servants. Authors. Artists. Teachers. Musicians. Actors. Bankers. Merchants (Wholesale).	CLASS II. Teachers in Elementary Schools. Clerks. Shopkeepers. Shopmen. Dealers in— Drugs. Books. Wool. Silk. Cotton. Foods. Drinks. Furniture. Metals. Glass. Earthenware. Fuel, etc.	CLASS III. Labourers and workers on— Agriculture. Gardens. Roads. Railways. Quarries. Navvies. Porters. Guards. Woodmen. Brickmakers. Labourers, etc., on Water— Sailors. Fishermen. Watermen. Labourers, etc., in Mines— Coal. Minerals.	CLASS IV. Workers in— Wood. Metal. Stone. Leather. Paper, etc. Engravers Photographers. Printers, etc.	CLASS V. Factory Operatives. Tailors. Shoemakers, etc.	CLASS VI. Policemen. Fire Brigade. Soldiers. Recruits. Lunatics. Criminals. Industrial schools.

* Social condition (influences of leisure, mental and manual labour).
† Nurture (influences of food, clothing, nursing, domestic surroundings, etc.).
‡ Occupation (influences of external physical conditions, exercise, etc.). Percentage of male population, including male children. (Census of 1871.)
§ Climate and sanitary surroundings.

App. VII. TABLE XIII.—TABLE showing the RELATIVE STATURES of BOYS of the Age of eleven to twelve YEARS, under different Social and Physical conditions of Life. The zigzag line running through the *Means* shows the degradation of stature as the Boys are further and further removed from the most favourable conditions of growth. App. VII.

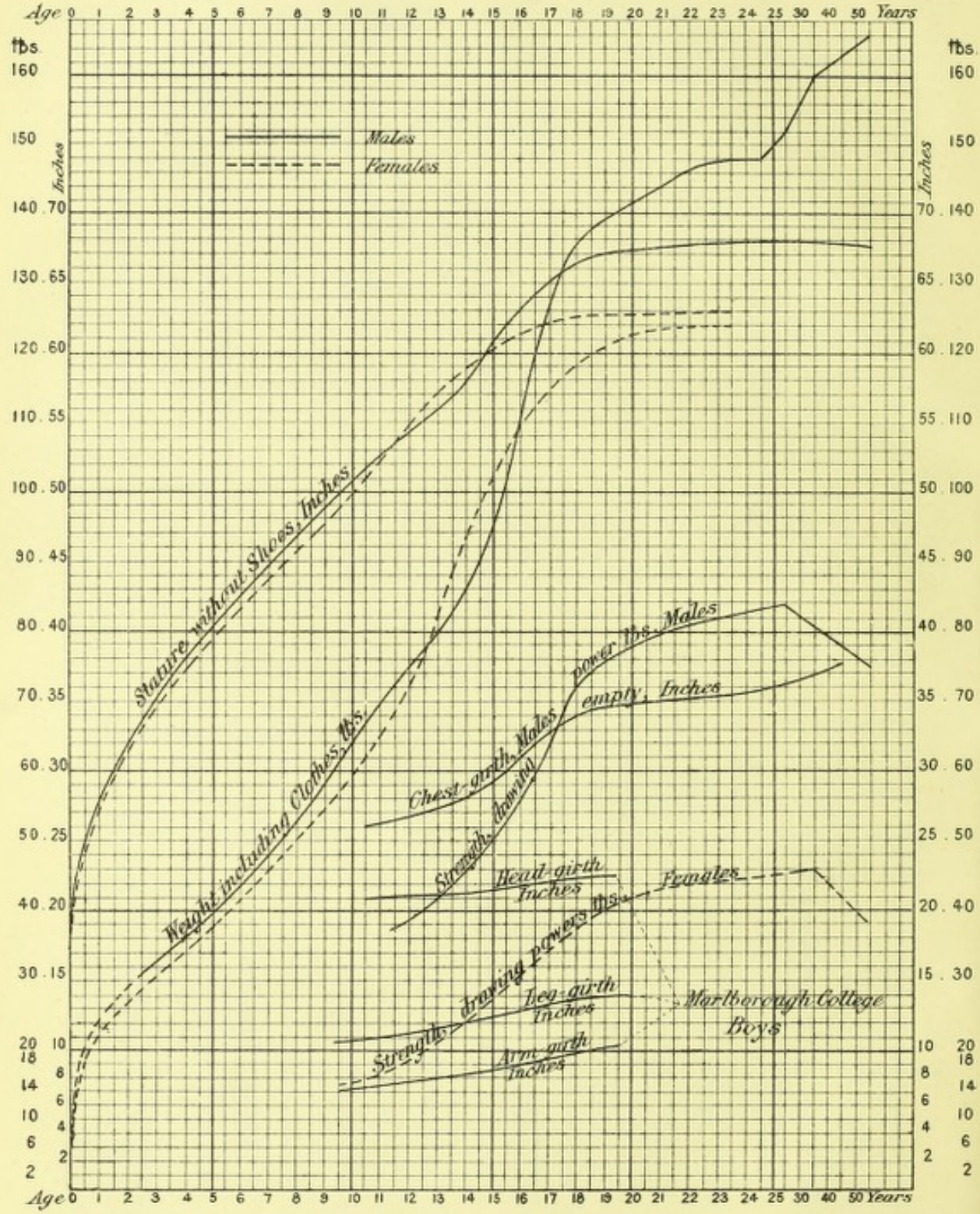
Height in Inches.	Total Number of Observations.	Public Schools.	Middle Class Schools.		Elementary Schools.				Military Asylums.	Industrial Schools.
		Country.	Upper. — Towns.	Lower. — Towns.	Agricultural Labourers. — Country.	Artisans. — Towns.	Factories and Workshops.			
							Country.	Towns.		
60-	6	2	—	3	—	1	—	—	—	—
59-	16	2	3	5	2	2	—	—	1	—
58-	35	9	9	8	5	0	2	—	2	—
57-	66	11	17	13	4	4	5	5	7	1
56-	118	21	23	27	14	4	10	3	15	—
55-	230	28	35	57	32	15	13	17	33	—
54-	329	33	53	68	47	24	36	20	46	2
53-	361	15	55	58	47	26	34	38	84	4
Mean. 52-	141	14	37	61	58	36	52	59	118	6
51-	370	6	25	40	36	28	45	57	123	10
50-	367	7	23	27	32	17	46	61	143	11 Mean.
49-	252	2	8	20	14	12	31	40	114	11
48-	132	—	3	1	7	4	11	20	76	10
47-	102	—	3	4	5	7	5	13	59	6
46-	22	—	—	—	1	1	3	7	7	3
45-	12	—	—	—	—	—	—	1	10	1
44-	1	—	—	—	—	—	—	—	0	1
43-	1	—	—	—	—	—	—	—	1	—
42-	1	—	—	—	—	—	—	—	1	—
Total - - -	2,862	150	294	392	304	181	293	341	840	68
Average height	52·09	54·98	53·85	53·70	53·01	52·60	52·17	51·56	51·20	50·02
Mean height -	52·5	55·0	54·0	53·5	53·0	52·5	52·0	51·5	51·0	50·0

TABLE XIV.—Showing the RELATIVE STATURE of ADULTS of the Ages of twenty-five to thirty Years, under different Social and Physical conditions of Life.

The horizontal black line shows the *Mean* Height of each class and the degradation from the standard class.

Height in Inches.	General Population, all Classes.	Class I. Professional Classes.	Class II. Commercial Classes, Clerks, and Shopkeepers.	Class III. Labouring Classes, Agricultural, Miners, Sailors.	Class IV. Artisan Classes living in Towns.	Class V. Sedentary Occupations: Factories, Tailors.	Class VI. Special Classes.	
							Prisoners, all Classes.	Lunatics, all Classes.
76-	—	—	—	—	—	—	—	—
75-	1	—	—	1	—	—	—	—
74-	7	1	—	6	—	—	1	—
73-	19	3	2	11	2	1	2	1
72-	39	7	6	24	2	—	3	2
71-	66	9	8	42	3	4	6	6
70-	114	21	14	56	14	9	20	7
69-	176	20	30	103	15	8	29	18
68-	222	13	25	130	41	13	41	20
67-	309	16	35	179	57	22	73	40
66-	282	8	24	144	78	28	73	62
65-	241	4	19	111	64	43	76	51
64-	151	2	11	69	38	31	78	52
63-	74	2	5	38	17	12	41	29
62-	39	—	1	20	5	14	21	29
61-	15	1	—	6	4	3	17	12
60-	4	—	—	1	2	1	2	5
59-	6	—	—	2	—	4	1	4
58-	1	—	—	1	—	—	1	1
57-	1	—	—	1	—	—	—	2
56-	—	—	—	—	—	—	1	—
Total - -	1,935	107	180	945	342	193	491	341
Mean Height -	67·5	69·0	68·0	67·5	66·5	65·5	66·0	65·5
Average - -	67·43	69·14	67·95	67·51	66·61	65·92	66·16	65·65
Average - -	67·21	Calculated from the percentage portion of the five classes in the general population.						

Diagram showing the Stature, Weight, Chest girth and Strength of both Sexes at all Ages of the General Population of the United Kingdom.



Illustrating the Report of the Anthropometric Committee

C. Roberts.

2105.6.85 E. Weller & Graham, Lith.

56. Tables XVI. to XXII. show the growth of children of four of the five classes into which the returns have been divided. Class I. comprises the upper and professional classes and their children, and it may be accepted as representing the best physique of this country, and used as a standard with which to compare all other classes. According to the census of 1871 this class constitutes 4·46 per cent. of the population. Class II. consists of the commercial classes, such as clerks and shopkeepers and their children, whose occupations are carried on in towns, and for the most part indoors, and therefore under less favourable conditions to healthy development than the constituents of Class I. Class II. comprises 10·36 per cent., of the population. Class III. represents the labouring classes, such as agricultural labourers, fishermen, miners and others who follow outdoor healthy occupations, but whose nurture is inferior to the two former classes. This class comprises 47·46 per cent., or nearly half the population of the country. Class IV. represents the mass of our town population engaged as artisans. Their trades, being carried on indoors, and requiring less physical exercise than Class III., place them under less favourable conditions as to sanitary surroundings. This class forms 26·82 per cent., or about a fourth of the population. Class V., comprising persons living in towns and following sedentary occupations under the most unfavourable conditions as to nurture and sanitary surroundings, has been omitted from the tables, as sufficient data have not been received to fairly represent it. This class constitutes 10·90 per cent. of the population.

57. The average stature and weight of each of the four classes have been worked out from the number of observations for each class, but as the several classes constitute different proportions of the general population, the average representing the 'general population' has not been worked out from the total number of observations, but is the average of the other four averages, and it is therefore the average of the four classes rather than of all the individuals measured and weighed. The observations referring to adults are fairly representative of the general population as they were received from all parts of the country; but those referring to children were received from schools devoted to the education of special classes of society, and in numbers which did not correspond with their respective percentage proportion of the general population. By adopting the average of the averages of the four classes into which the school children have been distributed according to the occupation of their parents, the inequality of the percentage proportion has been eliminated. Tables and a diagram showing the *mean* stature, weight, chest girth, and strength of males, as deduced from all the observations collected by the committee, are given in the Report of 1881.

58. Tables (XIII., XIV.) have already been given (s. 53) which show the falling off in the average stature of children of the age eleven to twelve years, and of adults of the age twenty-five to thirty years, as the conditions under which they live are less and less favourable to healthy physical development. The children vary to the extent of 5 inches, and the adults to 3½ inches, and corresponding variations occur in the weights and other physical qualities.

59. Plate X. shows the growth in stature, weight, and strength of individuals of both sexes, and the girth of chest, head, arm, and leg of males as far as they have been recorded in the returns received by the committee. The tracings are made from the *averages* in the column representing the general population, similar tracings of the standard class (males) having been given in the Report for 1880.

61. The Tables do not show distinctly at what period man attains his full stature, and much difference of opinion exists on the subject. Some French writers (Barnard, Allaire, etc.) maintain that growth in height goes on until the thirty-second or thirty-fifth year, and Dr Baxter arrives at the same conclusions from the statistics of the United States Army; while most English writers (Danson, Aitken, Roberts, etc.) regard the twenty-fifth as the year of mature growth, and Dr Beddoe places it as early as the twenty-third year, admitting, however, that a slight increase may take place after this age. The difference of opinion on the subject arises, no doubt, from the faulty method of relying on the measurements of many different individuals, instead of measuring the same individuals from year to year until growth ceases. The elimination of the weak and ill-developed by death, the difficulty of following the same class, and all the members of the class, through successive years, and the selection of special classes (*i.e.*, recruits whose ages are never certain), invalidate all conclusions as to the period of maturity drawn from statistics of measurements of many different persons; but, allowing for these sources of error, and judging by the run of the curves formed by the means and averages, it is probable that little actual growth takes place after the age of twenty-one, and that it entirely ceases by the twenty-fifth year. It is evident, moreover, from Table XVI., that the full stature is attained earlier in the well-fed and most favoured class (Class I.) than in the ill-fed and least favoured classes of the community (Class IV.).

62. It is difficult to understand, moreover, how any increase of stature can take place after the bones of the skeleton have become consolidated, and the epiphyses firmly united to the body of their respective bones; and the last of these unions in the long bones, on which the stature depends, occurs about the twenty-third year. In adopting the twenty-third year for men and the twentieth for women as the ages of the attainment of maturity, the committee was influenced by these considerations, and a desire to understate rather than overstate its case, and to embrace as large a number of observations as possible in its tables. In inquiries of this kind there is generally a slight amount of unconscious selection, very small persons being passed over, or having objections to being measured; and any deficiency of this kind will be balanced by the loss of growth which may occur after the age of twenty-three years. Females attain to maturity earlier than males, and the age of full growth has been fixed three years earlier for them.

Influence of Advancing Age.

63. The maintenance of the stature throughout life as shown by Table XVI. is a new and unexpected fact, but it is probably due to the survival of the taller and better developed members of the population, and the elimination by disease or death of the smaller and feebler ones. Quetelet has stated that man attains his maximum height at the age of thirty years, and maintains it up to fifty years, after which it begins to recede, and at ninety it has lost three inches. This may be, and probably is, true of individuals if measured from year to year, but it does not appear to be true of the population in the aggregate. The loss of stature resulting from the degeneration and loss of tissue, and the stooping position assumed by old people, is more than counterbalanced by the survival of a greater number of individuals who are above the average in height. The uniform increase in the weight and chest-girth throughout adult life also confirms this view.

App. VII.

TABLE XVI.—Showing the Average STATURE (without shoes), at all Ages, of different Classes of the Population of *Great Britain*.

App.

Males.

Age last Birthday.	General Population. All Classes. Town and Country.			Class I. Professional Classes. Town and Country.			Class II. Commercial Classes. Towns.			Class III. Labouring Classes. Country.			Class IV. Artisans. Towns.		
	No. Obs.	Average Height. Inches.	Increase. Inches.	No. Obs.	Average Height. Inches.	Increase. Inches.	No. Obs.	Average Height. Inches.	Increase. Inches.	No. Obs.	Average Height. Inches.	Increase. Inches.	No. Obs.	Average Height. Inches.	Increase. Inches.
Birth	451	19·52	–	–	–	–	–	–	–	–	–	–	451	19·52	–
0–1	2	27·00	–	–	–	–	–	–	–	2	–	–	–	–	–
1–	1	33·50	–	–	–	–	–	–	–	1	–	–	–	–	–
2–	5	33·70	–	–	–	–	–	–	–	5	–	–	–	–	–
3–	33	36·82	–	–	–	–	–	–	–	22	37·41	–	11	36·23	–
4–	107	38·46	1·64	–	–	–	–	–	–	19	39·30	1·89	88	37·63	1·40
5–	201	41·03	2·57	–	–	–	–	–	–	34	42·35	3·05	167	39·72	2·09
6–	266	44·00	2·97	–	–	–	1	45·50	–	34	44·59	2·24	231	41·90	2·18
7–	307	45·97	1·97	–	–	–	4	47·50	–	39	45·81	1·22	264	44·60	2·70
8–	1,524	47·05	1·08	–	–	–	61	47·60	–	324	47·09	1·28	1,139	46·46	1·86
9–	2,278	49·70	2·65	22	50·80	–	211	50·03	2·43	485	49·11	2·02	1,560	48·88	2·42
10–	1,551	51·84	2·14	101	53·69	2·89	331	52·04	2·01	783	50·93	1·82	336	50·72	1·84
11–	1,766	53·50	1·66	242	55·23	1·54	687	53·76	1·72	597	52·32	1·39	240	52·68	1·96
12–	1,981	54·99	1·49	490	57·29	2·06	902	55·29	1·53	395	53·67	1·35	194	53·72	1·04
13–	2,743	56·91	1·92	869	59·08	1·79	857	57·43	2·14	403	55·31	1·64	614	55·81	2·09
14–	3,428	59·33	2·42	966	61·29	2·21	800	59·47	2·04	9	57·94	2·63	1,653	58·61	2·80
15–	3,498	62·24	2·91	974	63·61	2·32	544	62·19	2·72	515	61·82	3·88	1,465	61·36	2·75
16–	2,780	64·31	2·07	1,102	66·23	2·62	110	64·55	2·36	177	63·62	1·80	1,391	62·85	1·49
17–	2,745	66·24	1·93	1,852	67·81	1·58	107	66·59	2·04	75	65·87	2·25	711	64·70	1·85
18–	2,305	66·96	·72	1,724	68·26	·45	62	67·44	·85	148	66·53	·66	371	65·60	·90
19–	1,434	67·29	·33	951	68·58	·32	63	67·55	·11	143	66·87	·34	277	66·17	·57
20–	880	67·52	·23	461	69·08	–	61	67·58	0·3	183	66·93	·06	175	66·50	·33
21–	757	67·63	·11	364	68·70	·12	51	67·79	·21	177	67·15	·22	165	66·55	·05
22–	558	67·68	·05	227	68·94	–	53	67·82	·03	169	67·35	·20	109	66·60	·05
23–	592	67·48	–	114	68·73	·03	59	67·42	–	274	67·38	·03	145	66·40	–
24–	517	67·73	·05	57	68·82	·09	62	68·09	·27	258	67·47	·09	140	66·55	–
25–							47	67·93	–	218	67·52	·05	92	66·40	–
26–							47	68·07	–	194	67·46	–	74	66·46	–
27–	1,576	67·80	·07	107	69·14	·32	27	68·13	·04	162	67·76	·24	66	66·67	·07
28–							33	67·65	–	208	67·31	–	59	66·65	–
29–							26	67·96	–	163	67·54	–	53	66·82	·15
30–35	1,886	68·00	·20	52	69·61	·37	85	67·70	–	745	67·59	–	180	66·65	–
35–40							82	68·07	–	631	67·62	–	111	67·08	·26
40–50	1,148	67·96	–	46	69·38	–	79	68·09	–	943	67·56	–	80	66·80	–
50–60	198	67·92	–	13	69·50	–	16	67·69	–	147	68·06	·30	22	66·45	–
60–70	44	67·41	–	5	69·10	–	3	66·16	–	34	67·88	–	2	66·50	–
70–	12	69·22	1·22	–	–	–	1	68·50	–	11	69·95	1·89	–	–	–
Total Obs.	37,574	–	–	10,739	–	–	5,472	–	–	8,727	–	–	12,636	–	–

II. TABLE XVII.—Showing the Average STATURE (without shoes), at all Ages, of different Classes of the Population of *Great Britain*. APP. VII.

Females.

Age last Birthday.	General Population. All Classes. Town and Country.			Class I. Professional Classes. Town and Country.			Class II. Commercial Classes. Towns.			Class III. Labouring Classes. Country.			Class IV. Artisans. Towns.		
	No. Obs.	Average Height. Inches.	Increase. Inches.	No. Obs.	Average Height. Inches.	Increase. Inches.	No. Obs.	Average Height. Inches.	Increase. Inches.	No. Obs.	Average Height. Inches.	Increase. Inches.	No. Obs.	Average Height. Inches.	Increase. Inches.
Birth	466	19·31	–	–	–	–	–	–	–	–	–	–	466	19·31	–
0–1	6	24·83	5·52	–	–	–	–	–	–	–	–	–	6	24·83	5·52
1–	9	27·50	2·67	–	–	–	1	28·50	–	–	–	–	7	27·38	2·55
2–	6	32·33	4·83	–	–	–	–	–	–	–	–	–	6	32·00	4·62
3–	43	36·23	3·90	–	–	–	11	37·68	–	8	36·78	–	24	35·33	3·33
4–	99	38·26	2·03	–	–	–	12	38·50	·82	19	38·97	2·19	68	37·30	1·97
5–	157	40·55	2·22	–	–	–	10	40·00	1·50	43	41·87	2·90	104	39·77	2·47
6–	189	42·88	2·33	–	–	–	14	42·50	2·50	44	43·43	1·56	131	41·84	2·07
7–	173	44·45	1·57	–	–	–	30	44·43	1·93	47	45·35	1·92	96	43·56	1·72
8–	432	46·60	2·15	–	–	–	18	47·16	2·73	119	47·10	1·75	295	45·55	1·99
9–	499	48·73	2·13	–	–	–	42	49·90	2·74	175	48·93	1·83	282	47·36	1·81
10–	480	51·05	2·32	11	53·41	–	52	51·44	1·54	149	50·40	1·47	268	48·96	1·60
11–	441	53·10	2·05	22	55·04	1·63	87	53·33	1·89	115	52·48	2·08	217	51·54	2·58
12–	225	55·66	2·56	23	57·41	2·37	87	55·68	2·35	22	55·59	3·11	93	53·98	2·44
13–	206	57·77	2·11	68	59·03	1·62	66	58·47	2·79	14	57·36	1·77	58	56·22	2·24
14–	240	59·80	2·03	79	60·78	1·75	86	60·62	2·15	12	59·16	1·80	63	58·56	2·34
15–	201	60·93	1·13	70	62·11	1·33	98	61·28	·66	–	–	–	33	59·41	0·85
16–	136	61·75	·82	49	62·54	·43	82	61·56	0·28	–	–	–	5	61·16	1·75
17–	88	62·52	·77	20	62·83	·29	68	62·22	·66	–	–	–	–	–	–
18–	62	62·44	–	25	62·84	·01	37	62·05	–	–	–	–	–	–	–
19–	98	62·75	·23	48	63·40	·56	50	62·10	–	–	–	–	–	–	–
20–	130	62·98	·23	59	63·39	–	71	62·58	·36	–	–	–	–	–	–
21–	60	63·03	·05	24	63·63	·23	36	62·44	–	–	–	–	–	–	–
22–	53	62·87	–	13	63·53	–	40	62·22	–	–	–	–	–	–	–
23–	24	63·01	–	13	63·42	–	11	62·66	·08	–	–	–	–	–	–
24–	21	62·70	–	5	63·60	–	–	–	–	–	–	–	16	61·81	·65
25–30	43	62·02	–	19	62·97	–	–	–	–	–	–	–	24	61·08	–
30–35				8	63·25	–	–	–	–	–	–	–	–	–	–
35–40				–	–	–	–	–	–	–	–	–	11	60·90	–
40–50	30	61·15		–	–	–	–	–	–	–	–	–	5	60·60	–
50–60				–	–	–	–	–	–	–	–	–	1	61·50	–
60–70				–	–	–	–	–	–	–	–	–	2	60·50	–
70–				–	–	–	–	–	–	–	–	–	3	60·16	–
Total Obs.	4,616	–	–	556	–	–	1,009	–	–	767	–	–	2,284	–	–

App. VII. TABLE XVIII.—Showing the Average WEIGHT (including clothes), at all Ages, of different Classes of the Population of *Great Britain*. App. VII.

Males.

Age last Birthday.	General Population. All Classes. Town and Country.			Class I. Professional Classes. Town and Country.			Class II. Commercial Classes. Towns.			Class III. Labouring Classes. Country.			Class IV. Artisans. Towns.		
	No. Obs.	Average Weight. Pounds.	Increase. Pounds.	No. Obs.	Average Weight. Pounds.	Increase. Pounds.	No. Obs.	Average Weight. Pounds.	Increase. Pounds.	No. Obs.	Average Weight. Pounds.	Increase. Pounds.	No. Obs.	Average Weight. Pounds.	Increase. Pounds.
Birth	451	7·1	–	–	–	–	–	–	–	–	–	–	451	7·1	–
0–1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
2–	2	32·5	–	–	–	–	–	–	–	2	32·5	–	–	–	–
3–	41	34·0	1·5	–	–	–	–	–	–	11	33·1	–	30	35·0	–
4–	102	37·3	3·3	–	–	–	1	37·5	–	15	35·8	2·7	86	38·6	3·6
5–	193	39·9	2·6	–	–	–	–	–	–	29	38·9	3·1	164	40·9	2·3
6–	224	44·4	4·5	–	–	–	–	–	–	35	44·2	5·3	189	44·6	3·7
7–	246	49·7	5·3	–	–	–	4	51·3	3·8	37	47·2	3·0	205	50·7	6·1
8–	820	54·9	5·2	–	–	–	63	55·5	4·2	286	54·8	7·6	471	54·3	3·6
9–	1,425	60·4	5·5	–	–	–	211	62·3	6·8	415	60·5	5·7	799	58·3	4·0
10–	1,464	67·5	7·1	92	74·0	–	370	65·2	2·9	721	67·0	6·5	281	64·0	5·7
11–	1,599	72·0	4·5	185	78·7	4·7	686	68·0	2·8	553	72·2	5·2	175	69·0	5·0
12–	1,786	76·7	4·7	369	84·9	6·2	905	73·2	5·2	366	75·9	3·7	146	73·0	4·0
13–	2,443	82·6	5·9	621	91·6	6·7	854	80·1	6·9	328	79·7	3·8	640	79·0	6·0
14–	2,952	92·0	9·4	748	102·2	10·6	799	89·5	9·4	9	89·2	9·5	1,396	87·3	8·3
15–	3,118	102·7	10·7	652	114·3	12·1	344	99·4	9·9	676	100·6	11·4	1,446	96·4	9·1
16–	2,235	119·0	16·3	834	129·5	15·2	55	117·2	17·8	169	117·2	16·6	1,177	112·2	15·8
17–	2,496	130·9	11·9	1,705	141·7	12·2	38	128·8	11·6	80	131·5	14·3	673	121·5	9·3
18–	2,150	137·4	6·5	1,638	146·4	4·7	39	135·1	6·3	135	138·7	7·2	338	129·3	7·8
19–	1,438	139·6	2·2	940	148·5	2·1	69	138·6	3·5	140	140·2	1·5	289	131·1	1·8
20–	851	143·3	3·7	451	152·4	3·9	52	140·1	1·5	175	144·3	4·1	173	136·4	5·3
21–	738	145·2	1·9	365	152·7	·3	52	143·9	3·8	164	147·8	3·5	157	136·2	–
22–	542	146·2	1·7	215	152·8	·1	51	145·5	1·6	167	150·6	2·8	109	138·6	2·2
23–	551	147·8	·9	112	151·5	–	57	146·8	1·3	279	152·8	2·2	103	140·2	1·6
24–	483	148·0	·2	56	149·6	–	57	147·1	·3	250	151·9	–	120	143·4	3·2
25–							45	148·5	1·4	224	154·1	1·3	61	139·9	–
26–							46	154·1	5·6	192	154·1	–	58	142·2	–
27–	1,523	152·3	4·3	115	156·3	3·5	26	149·2	–	171	156·7	2·6	56	146·9	3·5
28–							33	156·1	2·0	213	155·1	–	50	148·0	1·1
29–							26	154·3	–	161	158·0	1·3	46	148·1	·1
30–35	964	159·8	7·5	24	171·5	15·2	87	158·5	2·4	700	159·2	1·2	153	150·1	2·0
35–40	840	164·3	4·5	24	173·5	–	80	166·6	8·1	631	160·5	1·3	105	156·5	6·4
40–50	1,140	163·3	–	44	172·5	1·0	72	168·6	2·0	911	162·0	1·5	113	151·7	–
50–60	179	166·1	1·8	13	174·5	2·0	16	173·4	4·8	129	170·9	8·9	21	145·6	–
60–70	35	158·1	2·0	5	164·5	–	3	165·7	–	24	170·9	–	3	130·8	–
70–	12	182·1	–	–	–	–	1	189·0	–	11	175·3	4·4	–	–	–
Total Obs.	33,043	–	–	9,208	–	–	5,142	–	–	8,409	–	–	–	–	–

II. TABLE XIX.—Showing the Average WEIGHT (including clothes), at all Ages, of different Classes of the Population of *Great Britain*. App. VII.

Females.

Age last Birthday.	General Population. All Classes. Town and Country.			Class I. Professional Classes. Town and Country.			Class II. Commercial Classes. Towns.			Class III. Labouring Classes. Country.			Class IV. Artisans. Towns.		
	No. Obs.	Average Weight. Pounds.	Increase. Pounds.	No. Obs.	Average Weight. Pounds.	Increase. Pounds.	No. Obs.	Average Weight. Pounds.	Increase. Pounds.	No. Obs.	Average Weight. Pounds.	Increase. Pounds.	No. Obs.	Average Weight. Pounds.	Increase. Pounds.
Birth	466	6·9	-	-	-	-	-	-	-	-	-	-	466	6·9	-
0-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-	8	20·1	-	-	-	-	1	22·5	-	-	-	-	7	19·6	12·7
2-	9	25·3	5·2	-	-	-	-	-	-	-	-	-	9	25·2	5·7
3-	30	31·6	6·3	-	-	-	11	30·9	-	8	33·0	-	22	30·8	5·5
4-	97	36·1	4·5	-	-	-	12	37·9	7·9	17	34·6	1·6	68	35·8	5·0
5-	160	39·2	3·1	-	-	-	18	38·8	0·9	44	38·4	3·8	108	40·3	4·5
6-	178	41·7	2·5	-	-	-	13	41·4	2·6	43	40·5	2·1	122	43·1	2·8
7-	148	47·5	5·8	7	51·8	-	31	45·4	4·0	42	46·8	6·3	99	46·2	3·1
8-	330	52·1	4·6	6	52·5	·7	12	52·5	7·1	140	51·9	5·1	172	51·8	5·6
9-	535	55·5	3·4	17	55·4	2·9	23	55·0	2·5	209	56·5	4·6	286	55·2	3·4
10-	495	62·0	6·5	37	62·9	7·5	23	62·9	7·9	171	61·8	5·3	264	60·5	5·3
11-	456	68·1	6·1	61	69·9	7·0	41	68·5	5·6	130	67·1	5·3	224	66·8	6·3
12-	419	76·4	8·3	55	79·7	9·8	55	77·3	8·8	126	75·7	8·6	183	74·9	8·1
13-	209	87·2	10·8	63	89·8	10·1	60	88·2	10·9	21	84·0	8·3	65	84·9	10·0
14-	229	96·7	9·5	75	98·8	9·0	81	96·3	8·1	12	94·0	10·0	61	97·7	12·8
15-	187	106·3	9·6	60	107·3	8·5	91	104·1	7·8	-	-	-	36	107·6	9·9
16-	128	113·1	6·8	49	113·9	6·6	75	112·2	8·1	-	-	-	-	-	-
17-	74	115·5	2·4	14	116·8	2·9	59	114·3	2·1	-	-	-	-	-	-
18-	64	121·1	5·6	26	123·1	6·3	38	119·1	4·8	-	-	-	-	-	-
19	97	123·8	2·7	47	125·5	2·4	50	122·1	3·0	-	-	-	-	-	-
20-	128	123·4	·6	58	126·6	1·1	70	120·3	-	-	-	-	-	-	
21-	59	121·8	-	23	125·3	-	36	118·3	-	-	-	-	-	-	-
22-	53	123·4	-	14	122·8	-	37	124·1	2·0	-	-	-	-	-	-
23-	29	124·1	·7	12	128·7	2·1	16	119·4	-	-	-	-	-	-	-
24-	19	120·8	-	5	120·5	-	-	-	-	-	-	-	-	-	-
25–30	43	120·0	-	19	119·1	-	-	-	-	-	-	-	-	-	-
30–35 / 35–40	23	120·8	-	8	120·6	-	-	-	-	-	-	-	-	-	-
40–45	9	118	-	-	-	-	-	-	-	-	-	-	-	-	-
45–50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50–60	3	104	-	-	-	-	-	-	-	-	-	-	-	-	-
60–70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70-	3	106·0	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Obs.	4,685	-	-	656	-	-	853	-	-	963	-	-	2,192	-	-

App. VII. TABLE XX.—Summary Table showing the average STATURE, WEIGHT, CHEST-GIRTH, App. VII.

Age last Birth-day.	Height without shoes, in Inches.		Weight with clothes, in Lbs.		Chest-girth, empty, in Inches.		Strength: drawing-power, in Lbs.		Span of arms across the back, in Inches.		Ratio: weight divided by height.		Ratio: weight divided by chest-girth.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Birth	19·52	19·31	7·1	6·9	13·25	12·65	–	–	–	–	–	–	–	–
0–1	27·00	24·83	–	–	–	–	–	–	–	–	–	–	–	–
1–2	33·50	27·50	–	–	–	–	–	–	–	–	–	–	–	–
2–	33·70	32·33	32·5	–	–	–	–	–	–	–	·96	–	–	–
3–	36·82	36·05	34·0	31·9	–	–	–	–	–	–	·92	0·87	–	–
4–	38·46	38·13	37·3	35·5	–	–	–	–	–	–	·99	·93	–	–
5–	41·03	40·82	39·9	39·6	–	–	–	–	–	–	·97	·97	–	–
6–	44·00	42·63	44·4	42·4	–	–	–	–	–	–	1·01	1·00	–	–
7–	45·97	44·45	49·7	46·7	–	–	–	–	43·10	45·83	1·08	1·05	–	–
8–	47·05	46·60	54·9	52·2		–	–	17·5	47·56	46·50	1·16	1·12	–	–
9–	49·70	48·73	60·4	55·5	–	–	–	15·0	49·07	48·39	1·22	1·14	–	–
10–	51·84	51·05	67·5	62·0	26·10	–	–	15·1	50·64	49·92	1·30	1·21	2·59	–
11–	53·50	53·10	72·0	68·1	26·53	–	37·5	17·6	51·98	52·41	1·35	1·28	2·72	–
12–	54·99	55·66	76·7	76·4	27·20	–	38·7	18·8	54·03	55·04	1·39	1·37	2·82	–
13–	56·91	57·77	82·6	87·0	28·03	–	44·2	22·3	55·51	58·06	1·45	1·51	2·95	–
14–	59·33	59·80	92·0	96·7	28·46	–	47·0	25·5	57·15	59·04	1·55	1·62	3·23	–
15–	62·24	60·93	102·7	104·8	29·74	–	52·2	29·6	–	60·79	1·65	1·72	3·46	–
16–	64·31	61·75	119·0	112·7	31·53	–	58·2	31·8	–	61·66	1·85	1·82	3·78	–
17–	66·24	62·52	130·9	114·9	33·64	–	67·8	33·9	–	62·52	1·98	1·84	3·89	–
18–	66·96	62·44	137·4	117·7	34·19	–	74·2	38·9	–	62·50	2·05	1·89	4·02	–
19–	67·29	62·75	139·6	123·7	34·49	–	76·4	40·8	–	62·69	2·07	1·97	4·05	–
20–	67·52	62·98	143·3	123·2	34·98	–	77·9	42·0	–	62·49	2·12	1·96	4·09	–
21–	67·63	63·03	145·2	121·2	35·25	–	80·2	41·9	–	62·19	2·15	1·92	4·13	–
22–	67·68	62·87	146·9	124·2	35·33	–	81·7	42·9	–	62·35	2·17	1·97	4·16	–
23–	67·48	63·01	147·8	126·4	35·62	–	79·7	38·5	–	62·36	2·19	2·06	4·15	–
24–	67·72	62·70	148·0	120·6	35·82	–	80·9	39·2	–	62·22	2·19	1·92	4·13	–
25–	67·75		149·2								2·20			
26–	67·78		151·7								2·23			
27–	67·92	62·02	152·3	120·1	36·18	–	83·5	40·8	–	62·61	2·39	1·94	4·21	–
28–	67·70		153·9								2·27			
29–	67·87		154·2								2·27			
30–	67·89		159·8								2·35			
35–	68·09		164·3	121·0	37·08	–	77·5	46·2	–	62·10	2·41		4·37	–
40–	67·96		163·1	118·6							2·39			
50–	67·92	61·15	166·1	–	37·58	–	76·5	38·1	–	60·29	2·44	1·96	4·38	–
60–	67·41		158·1	–	–	–	74·6				2·24			
70–	69·22		182·1	–	–	–	–				2·62			

VII. **Strength and Span of Arms of both sexes and of all ages, and their relation to each other.** App. VII.

Ratio: Weight divided by strength.		Relative of span of arms to height.		Difference between the two sexes: females compared with males								Age last Birth-day.
				Height.		Weight.		Strength.		Span of arms.		
M.	F.	M.	F.	Actual.	Per Cent.	Actual.	Per Cent.	Actual.	Per Cent.	Actual.	Per. Cent.	
				Inches.		*Lbs.*						
-	-	-	-	-0·21	-1·07	- 0·2	- 2·81	-	-	-	-	Birth.
-	-	-	-	-	-	-	-	-	-	-	-	0-1
-	-	-	-	-	-	-	-	-	-	-	-	1-2
-	-	-	-	-	-	-	-	-	-	-	-	2-
-	-	-	-	-0·77	-2·09	- 2·1	- 6·17	-	-	-	-	3-
-	-	-	-	-0·33	-0·86	- 1·8	- 4·82	-	-	-	-	4-
-	-	-	-	-0·21	-0·51	- 0·3	- 0·75	-	-	-	-	5-
-	-	-	-	-1·37	-3·11	- 2·0	- 4·50	-	-	-	-	6-
-	-	-2·87	+1·38	-1·52	-3·30	- 3·0	- 6·04	-	-	+2·7	+6·2	7-
-	2·98	+ ·51	- ·10	-0·45	-0·99	- 2·7	- 4·92	-	-	-1·0	-2·1	8-
-	3·70	- ·63	- ·34	-0·97	-1·95	- 4·9	- 8·11	-	-	-0·6	-1·2	9-
-	4·11	-1·20	-1·13	-0·79	-1·52	- 5·5	- 8·15	-	-	-0·7	-1·3	10-
1·92	3·87	-1·52	- ·69	-0·40	-0·74	- 3·9	- 5·41	-19·9	-53·0	+0·4	-0·7	11-
1·98	4·06	- ·96	- ·62	+0·67	+1·22	- 0·3	- 0·39	-19·9	-51·4	+1·0	+1·8	12-
1·87	3·90	-1·40	+ ·29	+0·86	+1·51	+ 4·4	+ 5·32	-21·9	-49·5	+2·5	+4·5	13-
1·96	3·79	-2·18	- ·76	+0·47	+0·79	+ 4·7	+ 5·11	-21·5	-45·7	+1·9	+3·3	14-
1·97	3·54	-	- ·14	-1·31	-2·10	+ 2·1	+ 2·04	-22·6	-43·3	-	-	15-
2·04	3·54	-	- ·09	-2·56	-4·00	- 6·3	- 5·30	-26·4	-45·3	-	-	16-
1·93	3·46	-	-	-3·72	-5·61	-16·0	-12·21	-39·0	-50·0	-	-	17-
1·85	3·03	-	+ ·06	-4·52	-6·75	-19·7	-14·34	-35·3	-47·5	-	-	18-
1·83	3·03	-	- ·06	-4·54	-6·74	-15·9	-11·39	-35·6	-46·6	-	-	19-
1·84	2·93	-	- ·49	-4·54	-6·72	-20·1	-14·02	-35·9	-46·0	-	-	20-
1·81	2·89	-	- ·84	-4·60	-6·30	-21.0	-16·53	-38·3	-47·7	-	-	21-
1·80	2·89	-	- ·52	-4·81	-7·10	-22·7	-15·45	-38·8	-47·2	-	-	22-
1·85	3·28	-	- ·65	-4·41	-6·63	-21·4	-14·19	-41·2	-51·7	-	-	23-
1·83	3·08	-	- ·48	-5·02	-7·41	-27·4	-18·51	-41·7	-50·1	-	-	24-
												25-
												26-
1·82	2·94	-	- ·41	-5·82	-8·50	-38·0	-24·97	-42·7	-51·0	-	-	27-
												28-
												29-
2·09	2·61	-	-	-	-	-41·0	-25·31	-31·3	-40·4	-	-	30-
												35-
2·13		-	+ ·05	-6·93	10·18	-44·5	-27·34	-37·4	-50·0	-	-	40-
2·23		-	-	-	-							50-
-	3·11	-	-	-	-	-	-	-	-	-	-	60-
-		-	-	-	-	-	-	-	-	-	-	70-

App. VII.

Industrial Schools.

64. The statistics referring to Industrial School children of both sexes are given in a separate form, as illustrating the physique of children bred under the most unfavourable conditions of life. Boys of this class of the age of 14 years are nearly seven inches (6·83) shorter of stature and 24¾ lbs. lighter in weight than the 1st or Standard Class of the foregoing tables. The returns sent in by Mr. R. Sutton from the Swinton School, near Manchester, are the most complete in all their details which the Committee has received from any source, and they may be accepted as models of what such returns ought to be.

App. VII.

Table XXI.—Comparative Table of Boys and Girls in Industrial Schools.

Age.	Number of Observations.		Height.		Weight.		Chest-Girth.		Span of Arms.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
			Inches.	*Inches.*	*Lbs.*	*Lbs.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
16-	7	—	57·64	—	93·92	—	29·25	—	57·50	—
15-	58	1	55·43	55·50	85·50	67·50	28·30	—	57·17	58·50
14-	102	33	54·46	55·00	77·35	81·25	27·29	—	54·72	54·21
13-	221	58	53·23	52·98	72·31	72·76	26·31	—	52·45	53·60
12-	205	66	51·79	51·16	67·40	68·25	25·85	—	50·10	51·28
11-	158	63	49·11	51·48	63·19	60·96	24·17	—	49·15	49·11
10-	191	60	48·09	47·70	56·76	56·00	23·97	—	47·46	47·21
9-	100	70	47·02	46·44	52·40	52·77	23·30	—	45·30	45·41
8-	69	66	44·61	44·68	47·13	47·79	22·58	—	43·20	43·46
7-	64	45	43·54	42·38	45·70	44·05	22·16	—	41·23	41·95
6-	46	47	41·14	41·15	40·43	40·66	21·95	—	40·30	39·50
5-	37	43	38·63	39·22	36·68	36·98	21·42	—	38·10	38·25
4-	9	19	36·27	37·07	33·61	34·09	20·50	—	35·00	35·90
3-	5	10	34·50	35·50	30·50	32·50	—	—	33·25	32·50
2-	—	11	—	31·95	—	26·77	—	—	—	29·50
1-	—	4	—	27·00	—	16·21	—	—	—	—
6 and under 12 months	—	4	—	26·25	—	16·66	—	—	—	—
0 and under 6 months	1	1	23·50	27·50	11·00	12·50	—	—	—	—
Total	1,273	601								

Table XXIII.—Comparison of Boys and Girls, at different Ages, in Industrial School at Swinton, near Manchester.

Age.	No. of Observations.		Height.		Weight.		Chest-Girth.		Breathing Capacity.		Strength of Arm. Drawing Power.		Sight Test Dots distinguished at Distance of Feet.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
			Inches.	*Inches.*	*Lbs.*	*Lbs.*	*Inches.*	*Inches.*	*Cubic inches.*		*Lbs.*	*Lbs.*	*Ft. in.*	*Ft. in.*
14	6	21	55·0	54·4	78·7	80·9	28·3	29·0	189	177	40·0	33·0	27·9	38·1
13	28	27	52·5	51·1	70·0	71·3	26·6	27·3	166	143	37·3	27·6	30·9	37·2
12	41	29	54·0	49·9	65·4	64·6	25·9	27·6	166	138	36·0	27·6	32·6	36·7
11	22	31	50·0	49·4	63·1	60·3	25·3	27·5	153	145	34·2	25·4	32·3	39·0
10	32	27	48·2	47·0	57·1	55·4	23·6	26·9	140	124	26·7	19·5	28·4	34·8
9	32	25	46·7	45·8	52·7	52·0	23·0	26·2	132	126	21·7	18·0	24·2	31·7
8	24	28	43·8	44·4	47·0	47·3	22·6	25·7	117	112	18·4	17·0	22·8	36·5
7	32	20	43·6	41·2	46·2	42·4	22·2	25·5	77	83	18·5	12·5	23·8	27·6
6	28	19	40·7	39·0	39·9	37·2	21·4	21·0	48	54	11·5	8·5	19·8	34·3
5	12	15	38·9	38·6	35·8	34·8	20·8	20·6	38	41	6·4	6·8	16·4	19·9
4	3	3	35·0	35·0	32·3	29·7	20·0	19·3	22	30	4·0	4·3	9·6	13·0
3	1	—	34·6	—	28·0	—	20·0	—	20	—	—	—	—	—
Total	261	245	—	—	—	—	—	—	—	—	—	—	—	—

Physical Improvement or Degeneracy of the Population.

65. Few statistics are in existence which help to throw light on this subject. It is generally believed that the population in the manufacturing towns of the North of England is rapidly degenerating, but a comparison of the measurements of stature and weight given in the Report of the Factory Commissioners of 1833, and in the Report to the Local Government Board on "Changes in Hours and Ages of Employment of Children and Young Persons in Textile Factories," 1873, shows that this is not the case. On the contrary, an examination of Table XXIV., showing these measurements, indicates a slight but uniform increase in stature, and a very large increase in weight, at corresponding ages. The increase in weight amounts to a whole year's gain, and a child of nine years of age in 1873 weighed as much as one of ten years in 1833, one of 10 as much as one of 11, and one of 11 as much as one of 12 years in the two periods respectively.

66. As an example of the condition of a class living under most favourable conditions, a table (XXV.) showing the measurements of the boys in the Friends' (Quakers') School at York, extending over a period of twenty-seven years, is given. Allowing for one or two obvious errors of observation, the general run of the figures is very uniform, the statures remaining stationary, while there is a slight improvement in the weight at the higher ages in the last nine years.

TABLE XXIV.—Showing the Average STATURE and WEIGHT of Factory Children at an interval of 40 Years, 1833–1873. (Stanway and Roberts.)

STATURE.

Age.	Boys.				Girls.			
	1833.		1873.		1833.		1873.	
	No.	*Inches.*	*No.*	*Inches.*	*No.*	*Inches.*	*No.*	*Inches.*
9	17	48·14	126	48·30	30	47·97	144	48·31
10	48	49·79	256	49·85	41	49·62	201	50·33
11	53	51·26	196	51·59	51	51·15	174	51·21
12	42	53·38	175	53·30	80	53·70	—	—

WEIGHT.

	No.	*Lbs.*	*No.*	*Lbs.*	*No.*	*Lbs.*	*No.*	*Lbs.*
9	17	51·76	136	58·15	30	51·31	137	55·87
10	48	57·00	247	60·19	41	54·80	179	60·59
11	53	61·84	189	67·72	63	59·69	180	65·37
12	42	65·97	167	69·76	80	66·08	—	—

TABLE XXV.—Showing the Average STATURE and WEIGHT of Boys in the York Friends' School, for 27 Years, 1853–1872.

Age last Birthday.	No. of Observations.	STATURE.				WEIGHT.			
		27 Years, 1853 to 1879.	9 Years, 1853 to 1861.	9 Years, 1862 to 1870.	9 Years, 1871 to 1879.	27 Years, 1853 to 1879.	9 Years, 1853 to 1861.	9 Years, 1862 to 1870.	9 Years, 1871 to 1879.
		Inches.	*Inches.*	*Inches.*	*Inches.*	*Lbs.*	*Lbs.*	*Lbs.*	*Lbs.*
9–	13	51·5	51·4	49·7	53·4	62·9	63·2	*54·2	70·3
10–	86	53·3	53·9	*51·6	54·7	68·5	71·6	*61·1	74·2
11–	261	56·4	56·5	56·1	56·5	79·7	80·3	76·1	81·2
12–	585	57·7	58·0	57·9	57·4	85·8	86·2	86·1	85·4
13–	874	59·9	60·6	59·9	59·6	95·4	96·9	95·0	95·0
14–	1,117	62·1	62·1	62·3	61·9	106·0	105·8	107·0	105·4
15–	1,174	64·2	63·9	64·3	64·2	116·6	113·5	117·2	117·2
16–	515	66·1	65·4	66·1	66·3	127·8	122·2	126·6	130·2
17–	36	67·2	—	67·0	67·4	136·3	—	130·0	138·6
	4,661								

* These values are too low, due probably to some error of observation. Mr. R. Clark, who furnishes the returns, is unable to account for the discrepancies in these years.

App. VIII. APPENDIX VIII. App. VIII.

List of Visits made by the Commission.

Date.	Place.
1902.	
26th May.	Gayhurst Road School, Hackney, London.
12th June.	Town Hall, Portsmouth. (Display of Physical Exercises by the Elementary School Children.)
13th June.	Westminster Bridge Road School, London.
13th June.	The Duke of York's Royal Military School, London.
19th June.	London Orphan Asylum, Watford.
2nd October.	Clyde, Industrial Training Ship *Empress* at Row.
3rd October.	Mossbank Industrial School at Robroyston.
13th October.	Edinburgh :— Sciennes Public School. Milton House Public School. St. John's Hill Day Industrial School. Royal High School. Regent Road Public School. Leith Walk Public School.
15th October.	Glasgow :— Dobbie's Loan Public School. High School for Girls. Napiershall Public School. Newlands Public School. Whitehill Public School. Alexandra Parade Public School.
17th October.	Aberdeen :— Middle Public School. Causewayend Public School. King Street Public School. Mile End Public School. Ashley Road Public School. Gymnasium of Robert Gordon's College.

APPENDIX IX.

REPORT ON THE PHYSICAL EXAMINATION OF 1200 SCOTTISH SCHOOL CHILDREN.

BY

MATTHEW HAY, M.D., Professor of Forensic Medicine, University of Aberdeen, Medical Officer of Health for Aberdeen;
and
W. LESLIE MACKENZIE, M.A., M.D., Medical Inspector for the Local Government Board of Scotland.

A.—Introduction.

TO THE ROYAL COMMISSION ON PHYSICAL TRAINING (SCOTLAND).

MY LORD AND GENTLEMEN,—

We have the honour to report that, in accordance with the request of the Royal Commission on Physical Training (Scotland), we have examined 1200 Scottish school children—600 in Edinburgh, where the examination was under the direction of Dr Mackenzie, and 600 in Aberdeen, where the examination was directed by Professor Hay.

AGES OF CHILDREN.

The children were between the ages of six and fifteen years, and were chosen in equal numbers from both sexes, and, as nearly as practicable, in equal numbers from the several years of age. The children were taken entirely from the schools under the charge of the School Board.

APPROVED SCHEDULE.

The examination of each child was carried out in considerable detail, and according to the scheme laid down in a schedule, which had previously received the approval of the Commission.

ASSISTANCE IN CONDUCT OF EXAMINATION.

We desire to express our great indebtedness to the following gentlemen and ladies for their valuable assistance in carrying out the inquiry—in Edinburgh to Mr Edwin Matthew, M.A., M.B., M.R.C.P.Ed., Clinical Tutor, Royal Infirmary, Edinburgh, Assistant Physician, Leith Hospital, late Ettles Scholar, University, Edinburgh; to Mr J. D. Lithgow, M.B., C.M., Ear and Throat Department, Royal Infirmary, Edinburgh; to Mr E. M. Lithgow, M.B., Ch.B., Eye Department, Royal Infirmary; and to Mrs Edith Fowler, M.B., C.M., late Resident Physician, Leith Hospital; and in Aberdeen to Mr James Dawson, M.B., D.P.H., whose great services throughout the inquiry Professor Hay wishes to emphasise; Mr A. W. M. Sutherland, M.B.; Mr William F. Croll, M.B.; Mr William E. Taylor, M.B.; and Miss Anne Mercer Watson, L.R.C.P. In both towns the examiners included experts in eye diseases and ear and throat diseases.

Cordial acknowledgments are also due, in Edinburgh, to Mr A. J. Bain, and Mr Alex. M'Kinna, of the Local Government Board for Scotland, and in Aberdeen to Mr James Cumming, of the Public Health Department, for assistance in the arduous labour of summarising and tabulating the results.

We have also to express our appreciation of the facilities afforded by the School Boards of the two cities, and of the cordial co-operation and valuable help rendered by the headmasters and staffs of the schools selected.

TIME OF EXAMINATION.

In both cities we found it convenient to conduct the examination in the month of November, that is, about the middle of the term following the longest vacation of the year. The children may, therefore, have been discovered in somewhat better physical condition than the average for the school year.

In *Edinburgh* the examination was begun on 10th November, and finished on 28th November. The schools opened on 2nd September after the usual autumn vacation of six weeks.

In *Aberdeen* the examination took place in November, and continued from the 6th to the 30th. The schools opened in the third week of August after the usual autumn vacation of six weeks.

SCHOOLS VISITED.

In order to ensure that the children examined would represent fairly the different social grades of the population, schools were selected from the poorest and most crowded districts of each city, from the middle class districts, and from the better class districts. Information regarding the size of each school, date of construction, means of ventilation and heating, cubic space for each child, playground area for each child, and the number of children taken from each school, with the size of house in which they resided, is given in Table I. The size of the house, as determined by the number of rooms, is of use in affording a rough, but convenient and fairly reliable, index of the social condition of the child and of its general sanitary environment.

MODE OF SELECTING THE CHILDREN.

In order to obtain a representative selection of the school children in each of the cities, it was necessary, in the first place, to take schools that are themselves representative of the different social grades of the population, and, in the second place, to select the children by some chance method, as by ballot, keeping in view that the children should, as far as practicable, be equally spread over the several yearly ages from six to fifteen, and that there should be equal numbers of both sexes.

MODE OF EXAMINING THE CHILDREN AND OF STATING THE RESULT.

All the children were examined in the schools at which they were attending, a suitable room or hall being utilised for the purpose.

The information sought for, as will be seen from the

schedule, is to some extent beyond the strict requirements of the inquiry so far as it deals merely with physical training; but it was thought advisable to include what might prove to be unessential rather than to omit some observations that might have been subsequently recognised to be important.

The information as to the mental capacity of the child, and as to its position in the class, and the regularity of attendance, was, of course, supplied by the teacher, who also obtained the desired information as to the age of the child and the size of the house. The remainder of the information was procured by the medical examiners. The eyes were examined in an improvised dark chamber by an expert, and the ears and nose and throat were also examined by an expert. The rest of the medical examination was conducted in the usual way, and with as little undressing as was consistent with a satisfactory inspection. The measurements were, in each city, undertaken for all the children by the same person or persons, so as to secure uniformity of mode. The apparatus used was, except in so far as specified under particular tables, of precisely the same kind for both cities. The whole procedure and method of examination was carefully discussed and arranged beforehand by Professor Hay and Dr Mackenzie, so as to ensure, as far as practicable, that the results in both towns would be strictly comparable.

The information obtained has, as far as possible, been summarised in the various tables accompanying the report. As the number of children examined at each year of age and for each sex is small, it has been thought advisable, in most of the tables, to group the children into three three-year-age groups, namely, a group composed of the children above six and under nine years, a second of the children above nine and under twelve, and a third group of the children above twelve and under fifteen—the sexes being separately distinguished. Such a grouping gives a safer basis for generalisation, and will, at the same time, enable the Commissioners to apprehend more quickly the main facts elicited by the inquiry. It will be convenient to bear in mind in reading the table that, as the number of each sex in each age-group for each of the two cities is either actually or approximately 100, the figures relating to each group under the various headings, and giving the number of children belonging to one or other division or grade, are, as near as may be, percentages of the number of children of each sex in each group. The total percentages for the whole children in each city are, as far as is possible, worked out at the bottom of each table.

In a few tables, where it has been thought desirable, the information is supplied for each year of age.

It is not possible to condense or focus the results of the inquiry without such group tables or summaries; but it has to be admitted that much of the value of the inquiry lies in a collation of the details for the individual children. But for the large addition to the tabular matter, it would have enhanced the permanent value of the report if a summary of the information for each child were given. Such detailed information would have made it possible for subsequent investigators to work out from the facts fresh problems for themselves, or to compare at all points the facts elicited in this inquiry with those obtained in future inquiries of a similar kind.

Mental Capacity, Class Place, and Regularity of Attendance.

The teacher was asked to give his opinion of the mental capacity of each child, the capacity being graded according as it was 'excellent,' 'good,' 'medium,' 'dull' or 'defective.'

The position of the child in its class, which was also obtained from the teacher, usually agrees with mental capacity, but not necessarily. In Edinburgh, owing to the teachers having stated the class position in general terms, it was found to differ so little from the opinion as to mental capacity that it has been thought unnecessary to tabulate the information. In Aberdeen the teachers were good enough to supply for each child its average place in the class as well as the total number of pupils in the class, which has made it possible to arrange the children in four groups, according as they occupied a place in the top fourth, or one of the lower fourths of the class.

The standards for regularity of attendance were fixed after ascertaining the average percentage of absentees throughout the Board Schools in Edinburgh and Aberdeen. As the average is somewhat less in Aberdeen than in Edinburgh, and as the standard applied in the inquiry was the same for both towns, the proportion of irregular children has been correspondingly reduced in Aberdeen.

Very little reliable information was obtained as to the cause of irregular attendance, and, accordingly, a place has not been given to it in the table, though it stood in the schedule.

Personal Appearance.

This was noted by the medical examiners, and included complexion, health appearance, state of nutrition, brightness and alertness, carriage and general balance, and, lastly, cleanliness of body and clothing. Each was marked in one of three degrees—usually 'good,' 'medium,' and 'bad.'

There is naturally in this part of the examination a large subjective element in the observations of the examiner, and it is possible that this may account in some degree for the differences between the children of the two cities, for example, in respect of 'carriage and 'general balance.' But this was one of the items most likely to be viewed differently by different examiners, according as the standard was derived from the natural untrained child or from the physically trained child.

Only such uncleanliness was noted as was due to absence of proper habits and want of reasonable care.

Teeth.

The teeth of every child were examined in regard to cleanliness, regularity and shape, progress of development, amount of decay, and the attention given to brushing the teeth. Children in whom the development of the permanent teeth was delayed by more than a year from the average were entered as showing delayed development. The decaying teeth referred to in the table include all teeth showing signs of decay, whether slight or extensive, and the set—first or second—to which they belonged was noted. Teeth were only reckoned as lost when no part of them remained visible above the gum, otherwise they were counted amongst the decaying teeth. The lost teeth of the second or permanent set alone were recorded.

Colour of Hair and Eyes.

This was marked according to the schemes of colour in general use among anthropologists. It is not pretended that the observations on the colour of the hair and eyes have any value in connection with physical training, but they were easily taken, and possess some interest for the anthropologist, and they afford the material—perhaps not otherwise existing—for a comparison between the children of the two cities.

Eyesight.

The eyes were tested for distance vision by means of the usual Snellen's types (black on white) read at a distance of six metres. There was a slight difference in the scale numbers of the sets of types used in the two cities, which was not noticed until after the examinations had been completed, but it does not affect the value of the results. Both eyes were tested together.

'Emmetropia' implies normal refraction. 'Hyper-'metropia' corresponds to what is popularly known as 'long-sightedness.' Every degree of it was noted among the children examined, and as a slight degree of

it is widely met with in young children, it is usually regarded in such cases and degree as virtually normal. The higher degrees correspond closely with the defective vision as tested by the Snellen's type, and call for correction by the use of suitable spectacles.

'Myopia' is usually known as 'short-sightedness, and nearly always requires, for school work, correction by spectacles.

'Astigmatism' is due to inequalities in the curvature of the lens and cornea of the eye, producing more or less blurring in vision, and almost always requires correction.

Errors in the refraction of eyes, when allowed to go uncorrected, interfere with the education of the child, and are also, in many cases, a source of headache and pain in the eyes. The percentage of children requiring correction for defective vision is given in the tables.

The colour-sense, though appearing in the schedule, was not tested. It was found to be impossible to make reliable tests with young children; and, even among the older children, it would have required a great expenditure of time to obtain satisfactory results. The omission is, however, of little consequence, as the colour-sense is not found to vary much in different parts of the world or under different conditions of life.

Ears and Hearing.

The hearing power of each ear was separately tested, by means of a watch audible to a person of normal hearing in a still room at a distance of about nine feet. Similar watches, which had been previously compared, were used in the two cities. This test is not altogether reliable in distinguishing the finer grades of defective hearing, especially in young children, but it is sufficiently useful for practical purposes. Where the hearing power of the two ears differed, the average has been used in making up the table. If the average distance at which the watch was heard was less than four feet, the hearing has been classed as 'distinctly defective'; if between four feet and eight feet, 'defective'; and if eight feet and upwards, 'normal.' It may be assumed that a large majority of the children marked as 'defective' would, nevertheless, have no great difficulty in following the work of the class. All those entered as 'distinctively defective' would have a decided difficulty. Defective hearing is usually due to disease of the ear or throat, or a combination of both. The causes of the defective hearing in the children examined have therefore been classified in reference to diseases of these parts.

The drum of each ear was examined with a speculum.

Nose and Throat.

The nose and throat were examined as thoroughly as was possible without the aid of instruments, beyond a simple spatula. An attempt was made at first to use the nasal speculum and rhinoscopic mirror, but the children did not readily tolerate the use of these instruments, which were, therefore, abandoned. Consequently, some diseases may have escaped recognition, such as polypus and hypertrophy of turbinated bones.

The sense of smell was tested by a distilled solution of oil of peppermint of three different strengths—viz., 1 in 1000, 1 in 10,000, and 1 in 100,000. A control test of simple water was also used. The weakest of the peppermint solutions represented the limit of dilution detectable by a person with normal sense of smell. Children are classified in the table as defective in sense of smell if they failed to recognise one or all of the peppermint solutions. The number of failures were so few that it has been considered unnecessary to grade them.

Measurements.

As the tables show, a large number of measurements were made of various parts of the body of each child, in addition to the usual measurements of height and weight. The height sitting (from vertex to buttocks) was taken, as well as the height standing, in order to give a notion of the length of the trunk in proportion to the limbs. Various measurements of the length, width, and height of the head were made, for the purpose of obtaining some rough measure of the cranial capacity. The cephalic index was calculated from the average maximum length and width by the usual formula—viz., cephalic index $= \frac{\text{width} \times 100}{\text{length}}$.

The maximum length and width were ascertained by means of Gray's callipers, which are specially designed to secure unvarying pressure of the callipers on the head. The height of the head was measured by an apparatus devised by Professor Hay. In Edinburgh, Hepburn's callipers were also used for the same purpose, and gave approximately the same results. The circumference of the head and all other circumferences or girths were measured by a narrow steel or linen tape. In the head measurements the tape was drawn tightly, to diminish the error due to the hair; in other parts only sufficient pressure was used to ensure that the tape was in close contact all round. The width of the shoulders, pelvic crests, and hips was measured by a sliding callipers specially designed for the purpose by Professor Hay. These measurements are a test, along with the height, of the general skeletal development. The girth of the forearm and calf of leg was taken as a measure of muscular development; and in order to make allowance for differences in the thickness of the bones, the girth of the wrist and ankle was also measured. The muscular power was tested for the hand by a pressure apparatus constructed by Professor Hay, in which a rubber ball was attached by a tube to one arm of a specially designed manometer containing mercury. The child was asked to press the ball as firmly as it could by grasping it with the hand, and the degree of pressure exercised was read from a graduated arm of the manometer in terms of pounds of pressure per square inch. It should be remembered that the principle of the apparatus is different from that of the usual metal dynamometer, and the results are more accurate. The metal dynamometer is unsuitable for children. Each hand was separately tested, and the child was usually given two or more trials, the best of which was recorded. The apparatus worked satisfactorily.

All measurements were, as far as possible, made on the naked body; but where, as in the hip and pelvic measurements, it was impossible to insist on stripping in every case, an allowance was deducted for the thickness of clothing included in the measurements.

The tables giving the average measurements for each age and sex are supplemented by tables showing the number of children having measurements that deviate more than 5 per cent. above or below the average. The method as thus applied is, we believe, new, and gives interesting results.

Detailed Reports.

This general outline indicates the scope of the investigation. The facts ascertained for each city are arranged and discussed in separate reports. These reports are, on the whole, parallel. The main facts are contained in two series of similar tables, and these are supplemented according to the special features emerging in each city. It is thus possible both to secure a certain unity of impression in the exposition of each sequence of facts, and to afford facilities for a detailed comparison of the one city with the other.—We are, my Lord and Gentlemen, your obedient Servants,

(*Signed*) Matthew Hay.
" W. Leslie Mackenzie

February, 1903.

B.—REPORT on the Physical Examination of 600 EDINBURGH School Children.

By Dr W. LESLIE MACKENZIE.

App. IX.

Schools Visited.

The schools selected in Edinburgh were the following:—

(*a*) *South Bridge*, which lies in the east end of the city, and is attended by children from the east end, from the south, and to a less extent from the centre, the social grade being indicated by the predominance of two- and three-roomed houses.

(*b*) *London Street*, which lies in the north of the city, and is attended by many classes of the community, including a considerable percentage of those from one- and two-roomed houses, but including also a majority from the classes indicated by the three- and four-roomed houses.

(*c*) *North Canongate*, which lies in the east end, and is attended mainly by the children of the very poor classes, as indicated by the great predominance of one- and two-roomed houses.

(*d*) *Bruntsfield*, which lies in the west of the city, and is a higher grade school, attended by the children of those living mainly in houses of three, four, five rooms and upwards.

From a careful study of the localities, and after consultation with Miss Flora Stevenson, Chairman of the Edinburgh School Board, with Mr Arnot, School Board Clerk, and with the headmasters, I concluded that these schools represent fairly the various leading classes of children attending the School Board schools of Edinburgh. The results as recorded in the tables show that this conclusion is justified. No children were taken from any secondary school.

From each of these schools 150 children were taken —300 to represent the poorer and 300 to represent the better housed classes. None of the schools corresponds to the Grammar School in Aberdeen. For boys of the classes represented there, it would have been necessary to resort to the Academy, or George Watson's College, or some of the other secondary schools of Edinburgh.

In detail the percentages selected were as under:—

(*a*) *South Bridge.*—Daily average attendance during month of examination, 1112; number selected, 150, or 13·4 per cent.

(*b*) *London Street.*—Daily average attendance, 1297; number selected, 150, or 11·5 per cent.

(*c*) *North Canongate.*—Daily average attendance, 1303; number selected, 150, or 11·5 per cent.

(*d*) *Bruntsfield.*—Daily average attendance, 1628; number selected, 150, or 9·2 per cent.

The total number of children in average daily attendance at Edinburgh Board Schools for the period concerned was 29,425, or, approximately, 30,000.

It is convenient to remember this in estimating from the 600 examined the prevalence of any of the diseases or defects recorded; the number multiplied by 50 will give the approximate prevalence, if the same rate of incidence be assumed to prevail.

Selection of Children.

App. IX.

(*a*) *South Bridge.*—The names of all the children at each age from six to fourteen were brought together, numbers corresponding to these were placed in a hat, and out of this, 150 were taken blindly, equal numbers of male and female being taken at each age.

Of those selected, one or two were absent on the day appointed, and one objected to the examination, but these contingencies had been provided for by a ballot selection of some reserves.

(*b*) *London Street.*—Here the odd numbers of the various registers were taken to the extent required. This is a usual method in the inspection of schools. The names on the registers are not in any specific order, the order being determined by the series of chances that bring the child to school on a particular day.

In *North Canongate* and *Bruntsfield* the same method was followed as at London Street.

From a careful scrutiny of all the children in the various schools at various times of the day, I am entirely satisfied that the selection was representative. In one or two instances regret was expressed by the teachers that their best children had not been taken, but everyone realised that the value of the observations depended largely on the pure chance nature of the selection, and there was no attempt to evade the methods indicated. In one or two instances, parents objected; but the places of their children were at once taken by the reserves. In several instances, special requests were sent by parents to have their children examined, particularly for ear defects. This was done, and advice given.

The examination aroused the keenest interest in the children themselves.

In two cases of a peculiarly pathetic nature, I informed the headmaster that the children were suffering from acute phthisis. He, in turn, informed the parents. I learned afterwards that the latter were profoundly grateful for the information conveyed, and at once took steps to place the children under medical treatment. In at least one other case of phthisis the parents were aware of the fact that the child was affected.

From some of the schools it would have been possible to select a much superior set of children and a much worse set.

The only point in the selection that might possibly give rise to wrong inferences was the impossibility of obtaining the full number of children of ages fourteen to fifteen. Only in one school were there sufficient children to make a ballot possible for the full number. Consequently, I had to make up the group of twelve to fifteen from a larger number of those at the lower of the three years of age. The only figures that can be seriously affected by this difference are the average weights, heights, and chest measurements at those

ages. To eliminate this source of error I have had the comparison between the schools made, first, with the fourteen to fifteen average included, and then with this average left out. The results are shown in the appropriate table. The difference is not great.

Condition of Schools, Ventilation, etc., Houses, etc.

(*See* Table I.)

1. *Ventilation and Heating.*—Three of the schools—South Bridge, London Street, and North Canongate—are ventilated by fires, stoves, windows, and the usual outlets and inlets. They are heated by open fires. In the infant department of North Canongate the fires are supplemented by mechanical ventilation and hot pipes. At Bruntsfield there is a system of mechanical ventilation and steam heating.

The structures of the schools vary considerably, and, in consequence, the ventilation is more effective in some than in others. To speak generally, I found the ventilation fair in South Bridge, fair in North Canongate, very good in London Street and Bruntsfield. In all cases the class-rooms were vacated practically every hour, and for at least one period of not less than an hour. At all the schools care was taken to flood the rooms with air. There was very little of the 'close' odours associated with schools. But I do not consider it sound practice to conduct drill in school-rooms that have been recently used for class work. In one school I saw a class of girls at drill. The windows were open, but the room had only recently been vacated by a class. The drill lasted for nearly an hour.

I saw no reason why it should not have been conducted in the open air. In another school I saw a class drilled in the Sandow exercises. The drill had been going on more or less continuously for an hour or more. This was in one of the 'naturally' ventilated schools. This form of drill, as well as the parallel-bar drill, which I also saw at this school, demands the most perfect ventilation to give the best results.

To judge by the sense of exhaustion after working for some five to six hours continuously in the school atmosphere, I should grade the ventilation of the schools thus: South Bridge and North Canongate, equal; London Street, very fresh; Bruntsfield, very fresh, less draughts.

In all instances the air-conditions of the schools were, for the most of the day, superior to anything reasonably to be expected in the ordinary dwelling-house, and immeasurably superior to the average conditions found in the one- and two- and three-roomed houses. At these schools, therefore, the children are in a relatively more hygienic environment than at home.

2. *Cubic Space per Pupil.*—The table shows some variation in this. But cubic space must be considered in relation to ventilation. Thus South Bridge School shows greater cubic space *per* head than Bruntsfield, but the large halls in the centre of the Bruntsfield building, and the superior system of ventilation, certainly secure better aëration of all the spaces than South Bridge.

In North Canongate the cubic space is only 91 cubic feet per pupil, as against 153, 159, and 182 for the other schools. But although the cubic space is very small from the standpoint of theoretical physiology, the conclusions as to purity of air must be qualified by the fact that the rooms are never occupied except for short periods, are regularly flushed with air, and are constantly profiting by the movement of classes, and the incidental opening and closing of doors.

3. *Area of Playground.*—This is only an approximation, and is probably over the mark. Here allowance has to be made for the surroundings. In South Bridge the playground is hemmed in on all sides by buildings. At London Street it is open for almost the whole area. At North Canongate it is partly hemmed in and partly open, but has the disadvantage of being very near the railway, and is thus probably more polluted with smoke than the others. At Bruntsfield it is almost entirely open. In none of the playgrounds, however, is the light seriously obstructed, except in part of the Nort Canongate playground.

4. *Physical Training.* — In each of the four schools, physical training was organised according to a definite system. Each of the four schools has a gymnasium, provided with the usual appliances—including dumb-bells, bar-bells, Indian clubs, etc. Two of the four—namely, North Canongate and Bruntsfield—have swimming ponds.

(*a*) *South Bridge.*—Every child from six to nine years of age receives a fixed lesson of thirty minutes weekly, and, in addition, five minutes daily. Every child from nine to fifteen years of age receives a fixed lesson of twenty minutes weekly, and five minutes daily to relieve the tedium of any exacting lesson. In addition, about 160 boys and 160 girls receive a course of twelve lessons of half an hour weekly, in gymnastics and calisthenics, from an instructor holding the Army Certificate.

It is unnecessary to detail the exercises, which are graded according to well-known systems of free exercises.

At this school I saw one class of girls at drill in free gymnastics. The chief criticism I should have made was that the exercises are apt to be continued too long, and that they were conducted in a class-room recently vacated by a class. Even with open windows it is difficult to secure adequate fresh air. From such drill there will be great advantages for discipline and carriage; but these will be counter-balanced by interference with nutrition.

(*b*) *North Canongate.*—The amount of drill and exercises was practically the same as at South Bridge. In addition, the swimming pond is much used, particularly by the boys. The water is kept at about 75° Fahrenheit. I saw one set of boys at exercise in the pond. In thinness of body they quite conformed to the other facts ascertained at this school, but they were mostly alert and eager. They were allowed to disport themselves freely for about half an hour in and out of the water, using the gymnasium as a 'drying' ground. They were under the supervision of a teacher. Four hundred children a week are washed in this pond. The exercise is popular. The effect on the older boys was obvious in the increased cleanliness. There is also a side trough for washing of feet and body before entry into the pond. The criticism I should have made here was that the children tend to take much more exercise than is physically justified by their generally underfed condition.

(*c*) *London Street.*—Besides the exercises mentioned above, special attention is given at this school to the 'Sandow' system, under direction of the chief lady assistant. I saw one mixed class go through the series, including the very severe exercises of rising from the prone position without using the hands, and lowering and raising of the body on toe tips and arms. Several of the girls were in good training, and went through the exercises well; but in at least one case, the strain on the spine was obviously excessive. I saw another class, partly of the same girls, go through a series of parallel-bar exercises, where the weight of the whole body on the arms comes constantly into play. The exercises were well done; but again the strain was excessive in some cases. Among both boys and girls the effect of the training was obvious in hard muscles and alertness of carriage, but it was in this school that the largest proportion of affected hearts was found. In some of the cases the indoor school exercises were supplemented by unrestricted football and cricket. The criticism I should have made of the whole system was that the exercises were apt to continue too long, that they were conducted indoors, and that they included exercises too violent in themselves and of little value either for nutrition or development. The same results as are aimed at by some of those violent exercises may be secured by less violent methods. Some of the results are not, in my opinion, desirable in any case. The violence tends to over-development of absolutely useless muscles and to over-strain of the heart, as demonstrated in the heart record.

TABLE I.—Showing Number and Ages of Children Examined, etc.

(*Corresponds with Aberdeen, Table I.*)

EDINBURGH.

Name of School.	Date of Erection.	Mode of Ventilation.	Mode of Heating.	Number of Pupils. Average daily attendance.	Cubic space per Pupil. — Cubic feet.	Area of Playground per Pupil. — Square yards.	Physical Training.	Sex.	Number of Pupils examined. Above 6 and under 9.	Above 9 and under 12.	Above 12 and under 15.	Total.	Number of Pupils in different-sized houses. 1 room.	2 rooms.	3 rooms.	4 rooms.	5 rooms and upwards.
South Bridge	1886	Natural. (Windows and fires.)	Open fires and stoves.	1112	182	2·8	Gymnastics. Drill. Games.	M.	25	25	25	75	3	23	30	15	4
								F.	25	24	24	73	4	37	24	5	3
London Street	1889	Natural. (Windows and fires.)	Open fires and stoves.	1297	153	3·4	Gymnastics. Drill. Games.	M.	25	25	25	75	11	18	27	9	10
								F.	25	25	25	75	6	28	23	7	11
North Canongate	Old, 1879 Infant, 1901	Natural. (Windows and fires.) Mechanical. (Electric fan.)	Open fires and stoves. Hot water pipes.	1303	91	3·6	Gymnastics. Drill. Games. Swimming.	M.	25	26	25	76	15	44	16	...	1
								F.	24	25	25	74	15	41	16	2	
Bruntsfield	1895	Mechanical.	Steam pipes.	1628	159	3·1	Gymnastics. Drill. Games. Swimming.	M.	25	25	13	63	1	7	22	17	16
								F.	25	25	25	75	2	9	19	20	25
								M.	100	101	88	289	30	92	95	41	31
								F.	99	99	99	297	27	115	82	34	39
								Both sexes	199	200	187	586	57	207	177	75	70
							Percentages . .		...	...	...	...	9·73	35·32	30·20	12·80	11·95

The facts show that to secure benefit and to prevent injury, it is essential to select the cases for exercise and to select the exercises in each case. This is done at this school with considerable judgment by the teacher in charge, but more than apparent fitness ought to be considered. The indiscriminate practice of violent exercises of parallel-bar, or other acrobatic type, is certain to result in a considerable amount of physiological damage.

(*d*) *Bruntsfield.*—Besides the usual gymnastic and free gymnastic exercises, there is swimming. I saw a class of boys exercised under their instructor. They were taught how to fill the lungs, how to expand the chest, how to swim, dive, etc. The pond is a large one. From the chests inspected, there could be no doubt of the value of the exercises. A large proportion both of boys and girls practise in this pond. The temperature of the water was about 75° Fahrenheit. Exercises in diving were shown. It is here that swimming might result in injury. There is a tendency to encourage long diving—long both in distance and in time. This requires careful supervision. It should be absolutely forbidden except in specially examined cases. The danger in a case of heart or lung trouble would be enormous. Such exercise is open to the same criticism as the acrobatic exercises on bars and trapeze.

It was at this school that several phthisis cases were discovered. It is true that in only one or two were any exercises of a serious kind taken; but the number of cases in this—the best nourished of the four schools—is enough to show the absolute necessity of preliminary medical examination even of children apparently healthy and robust.

(*e*) *General Impression of the Exercises Seen.*—The general impression I formed of the exercises was that they contained a good deal too much of the more severe exercises, which are perhaps suitable enough for grown persons in training, but involve too great exertion for growing boys and girls. No doubt, under careful supervision, where the pupils are selected with strict regard to their health and physique, and not simply according to the grade of their class, the amount of harm (if any) that might result from one or two years of such exercises would be difficult to reckon; but when the selection is left practically to the wish of the pupil, or the parent, or the inspection of the teacher, or the Code standard in which the pupil is studying, the danger of damage is not to be disregarded.

5. *Rooms.*—In the allocation of rooms, 586 pupils have been considered. In the remainder of the 600 no correct returns were given.

The percentage of children living in *one-roomed* houses was, for the separate schools, as follows:—South Bridge, 4·7; London Street, 11·3; North Canongate, 20; and Bruntsfield, 2·1.

In *two-roomed* houses the percentages were—40·5, 30·6, 56·6, and 11·6 respectively.

In one-roomed and two-roomed houses, taken together, the percentages were—45·2, 42, 76·6, and 13·7 respectively.

In *three-roomed* houses the percentages were—36·4, 33·3, 21·3, and 29·7 respectively.

In *four-roomed* houses the percentages were—13·5, 10·6, 1·3, and 26·8.

In houses of five rooms and upwards the percentages were—4·7, 14, 0·6, 29·7.

From these figures it is evident that the children attending North Canongate are the worst housed. The percentage living in one-roomed houses is larger, the percentage living in two-roomed houses is larger, the percentage living in three-roomed houses is 21·3, as against 36·4, 33·3, and 29·7 for the others. The percentage living in four-roomed and five-roomed houses is only 1·3 and 0·6 respectively—a mere vanishing quantity.

If we classify schools according to the percentages of children living in houses of three rooms and upwards, we find that Bruntsfield is easily first with 86·2 per cent.; London Street second with 58 per cent.; South Bridge third with 54·7 per cent.; and Canongate last with 23·3 per cent. The contrast between the first and last is very striking, and it was seen to be equally marked at the other end of the scale, Bruntsfield yielding as few for the one-roomed houses as Canongate does for the four- and five-roomed. In the subsequent tables, it will appear that the contrast between Canongate and Bruntsfield is reflected in the weights, heights, nutrition, and some other respects.

If we take the schools as a whole, we find that the percentage of children living in one room is 9·73; in two rooms, 35·32—or a total of 45. The remainder live in houses of three or more rooms.

Mental Capacity.

(*See* Table II.)

1. *Mental Capacity.*—In the Edinburgh schools it is not the custom to award precise merit places in class. The details ascertained in this regard, therefore, do not furnish any more exact information than the teacher's opinion of 'mental capacity.' The entries made were classified into good, medium and bad, which would correspond roughly to upper third, middle third and lower third. Of the goods, there were 51 per cent.; of mediums, 38 per cent.; and of bads, 10 per cent. If we compare this with the entries of teacher's opinion, we find that the 'excellents' and 'goods' together amount to 57 per cent., the 'mediums' to 30 per cent., and the 'bads' and 'defectives' to 12 per cent. These numbers correspond fairly with the goods, mediums and bads as estimated from 'position in class.' The inference from the comparison is that the children selected were on the whole representative, and this is known to be the case on other grounds.

For the different schools, the figures vary somewhat. Thus in South Bridge the 'goods in position' numbered 70 per cent.; in London Street, 44·6; in North Canongate, 28; in Bruntsfield, 61·6. The corresponding figures in terms of 'teacher's opinion' were—for South Bridge, 69; London Street, 50; North Canongate, 31; Bruntsfield, 65.

For 'mediums in position,' the figures are—South Bridge, 25 (teacher's opinion, 31); London Street, position 40 (teacher's opinion, 50); North Canongate, position 46 (teacher's opinion, 57); Bruntsfield, position 27 (teacher's opinion, 30).

The 'bads in position' were respectively 4·6, 14, 14·6, 7·5. 'Bads in teacher's opinion' were 8, 12, 22, 7.

The outstanding feature of these figures is that North Canongate reckons only 28 'goods in position,' as against 44, 61 and 70 for the other schools, and 14 bads, which, however, is the same as London Street. Of the 'bads in teacher's opinion,' North Canongate reckons 22, as against 8, 12 and 7 for each of the other schools. This deficiency of 'goods' and overplus of 'dulls' and 'defectives,' or 'bads,' corresponds with all the other facts ascertained about North Canongate.

In confirmation of these striking conclusions, it may be stated that during the process of the examination at North Canongate School it was noticed that the attention of the children was disturbed with extreme ease. Every little trifle was a distraction. The nervous restlessness was very marked. In South Bridge, on the other hand, while the readiness to fall into animated talk was very marked, restlessness, except as the result of surplus energy of muscle, was not particularly prominent. At London Street, the surplus muscular energy was strongly in evidence, but the capacity for sustained attention was good. At Bruntsfield the restlessness was not prominent, and the capacity for attention was high. One simple test brought out these features:—While the examination of a child was going on, the others were told to watch the process so that they could hear the numbers. This request operated fairly well at South Bridge, very well at London Street, very well at Bruntsfield, and hardly at all at Canongate. In the last, the curiosity of the children rose above every other consideration.

App. IX. TABLE II.—Mental Capacity and School Attendance. App. I

(Corresponds with Aberdeen, Table II.)

EDINBURGH.

Age-group.	Sex.	Number examined.	Teacher's opinion of Mental Capacity.					Regularity of Attendance.		
								Absences.		
			Excellent.	Good.	Medium.	Dull.	Defective.	Under 8%.	Above 8% and under 16%.	Above 16%.
Above 6 and under 9	M.	100	16	34	31	18	1	71	19	10
	F.	99	16	39	31	12	1	72	22	5
Above 9 and under 12	M.	101	24	41	26	8	2	92	6	3
	F.	100	24	35	30	10	1	81	14	5
Above 12 and under 15	M.	100	18	51	25	6	...	78	11	11
	F.	100	7	39	39	15	...	72	16	12
Totals	M.	301	58	126	82	32	3	241	36	24
	F.	299	47	113	100	37	2	225	52	22
	Both sexes	600	105	239	182	69	5	466	88	46
Percentages . .			17·5	39·83	30·33	11·5	·83	77·67	14·67	7·66

The general inference I draw from these phenomena in the light of the figures is that the restlessness and shifting of attention so characteristic of the North Canongate children are based in their insufficiently nourished and over-stimulated nervous systems. They are older in experience than in years. They are extremely alert, but not very continuous in attention. They are better adapted to the casual life of the streets than to the persistent system of school discipline.

3. *Attendance.*—The feature of this part of the table is that the attendance is best for the nine to twelve group. This is capable of a general explanation. The younger children are more affected by conditions of weather, and the older children are more liable to be employed for home assistance. Those from nine to twelve are less liable on the whole to be affected by either of these well-known conditions.

In a fair number of cases I was informed that both before and after school hours boys were employed as messengers or paper boys. But I found nothing to show that this fact affected the attendance seriously.

In the individual schools, the attendance was as follows:—

	Good.	Medium.	Bad.
South Bridge . .	118	24	8
London Street . .	102	28	20
North Canongate .	120	21	9
Bruntsfield . .	126	15	9

Complexion, Nutrition, etc.

(*See* Table III.)

1. *Complexion.*—The inferences regarding personal appearance, cleanliness, etc., involve a high personal equation. In order that some uniformity of opinion might pervade the observations, I reserved this section of the schedule for myself. For much or for little, therefore, such error as there may be is fairly uniform. On a survey of the results, and a comparison of my recollections of the various schools, I have concluded that the standard varied a good deal without my being aware of it at the time. The examination began at South Bridge School. The first school was naturally the occasion for the formation of a standard. Possibly I was rather more exacting in some respects than at the later schools. For example, I find that 69 cases of paleness are recorded, as against 68 for North Canongate, 62 for London Street, and 58 for Bruntsfield. These results do not quite correspond with the general impression formed of the schools. North Canongate would probably be found to yield a greater number of pale children than South Bridge if the examinations were conducted with the groups of children standing side by side and made available for immediate comparison. On the other hand, I find that in South Bridge 40 were recorded as ruddy in complexion. This is probably an over-estimate, for Bruntsfield shows only 42 ruddy and London Street shows only 35, while North Canongate shows 30. From a general impression, I should have said that the Bruntsfield children contained a considerably greater number of ruddy-faced children than South Bridge, and that London Street did not contain much less than South Bridge. On the whole, however, such uniformity as was possible in conditions that varied from hour to hour was secured, and the gross results are reliable enough for practical purposes.

The special points noted under complexion were the pallor, the inequality of diffusion of colour, the sharpness of the margins of pink and white, the paleness of the lips and inner surface of the eyelids.

A great many of those marked pale were not unhealthily pale. The 'pallor' of underfed, or feeble, or diseased children, differs, as it were, in texture from the 'paleness' of health. The figures cover both; but the figures under 'health appearance' form a constant check on the nature of the 'pallor' or 'paleness.'

2. *Health Appearance.*—The special points noted here were the presence of dark rings under the eyes, the sunken character of the eyes, the sallowness, the anæmia, and other indications of feeble circulation, or bad aëration of the blood. The ruddy complexions as

TABLE III.—Personal Appearance, Cleanliness.

(Corresponds with Aberdeen, Table III.)

EDINBURGH.

Age-group.	Sex.	Number examined.	Complexion.			Health Appearance.			State of Nutrition.			Brightness and Alertness.			Carriage and General Balance.			Cleanliness.					
																		Clothing.			Body.		
			Pale.	Medium.	Ruddy.	Good.	Medium.	Bad.	Stout.	Medium.	Thin.	Good.	Medium.	Bad.	Good.	Medium.	Bad.	Good.	Medium.	Bad.	Good.	Medium.	Bad.
Above 6 and under 9	M.	100	54	25	21	18	47	35	9	54	37	51	35	14	54	35	11	69	22	9	52	33	15
	F.	99	47	31	21	27	41	31	24	42	33	53	40	6	75	20	4	74	22	3	61	28	10
Above 9 and under 12	M.	101	39	41	21	38	49	14	18	48	35	60	37	4	62	36	3	86	13	2	70	21	10
	F.	100	41	29	30	35	49	16	28	46	26	62	33	5	81	18	1	89	9	2	72	19	9
Above 12 and under 15	M.	100	35	35	30	44	46	10	24	42	34	58	39	3	66	33	1	88	11	1	80	18	2
	F.	100	41	35	24	42	49	9	33	53	14	58	32	10	66	27	7	89	9	2	79	16	5
Totals	M.	301	128	101	72	100	142	59	51	144	106	169	111	21	182	104	15	243	46	12	202	72	27
	F.	299	129	95	75	104	139	56	85	141	73	173	105	21	222	65	12	252	40	7	212	63	24
	Both sexes	600	257	196	147	204	281	115	136	285	179	342	216	42	404	169	27	495	86	19	414	135	51
Percentages . . .			42·83	32·67	24·5	34	46·83	19·17	22·67	47·5	29·83	57	36	7	67·33	28·17	4·5	82·5	14·33	3·17	69	22·5	8·5

a rule were found also to present a healthy appearance, but not always. In some delicate children the complexion had to be denominated ruddy.

3. *State of Nutrition.*—The facts of this column may be checked by the measurement of weights. (*See* Measurement tables.) The following summary brings out the relation :—

	Percentage of			Average weight in lbs.
	Stout.	Medium.	Thin.	
South Bridge .	23·3	52	24·6	59·7
London Street .	26	41	32·6	61·3
North Canongate	10	51·3	38·6	56·5
Bruntsfield . .	31·2	45·2	23·3	63·8

The lowest percentage of 'stouts' occurs in North Canongate, where also the average weight is distinctly lowest. At Bruntsfield the percentage of 'stouts' was highest and the percentage of 'thins' lowest, while the average weight was distinctly highest. These correlations show that the judgment of stoutness, medium nutrition and thinness was on the whole sound. It is certain that the general impression from careful observation both of the children and of several hundreds of others not examined in detail entirely conforms to the inferences established by the figures. Nor that only. It is impossible to convey by means of figures the quality of the stoutness and thinness in each school. For example, there was the thinness due to under-feeding, which was the predominant form at North Canongate, and there was the thinness due to high training, both muscular and nervous, which was a common feature of the other schools. The one order of thinness was associated with unhealthiness of appearance, the other form usually was not. Thus, while in London Street the percentage of thin children (32) was slightly less than at North Canongate (38), the percentage of 'good' in health appearance at London Street (45) was nearly double those at North Canongate (24), and the percentage of 'stouts' (26) was more than double (10). This clearly shows that thinness does not necessarily mean bad healthy condition.

The same remarks apply to paleness of complexion.

The deficiency of 'stouts' is a better index of health conditions in the school than the presence of 'thins.'

In South Bridge and North Canongate the percentage of 'mediums' is a little over 50. In the other two schools it is in one case over 45 and in the other 41. The least extreme distribution is found at Bruntsfield, and the general impression of the nutrition, as well as the facts regarding the weight, confirm the conclusion that at this school the children all over are better nourished. At the same time I was impressed with the large percentage of active vigorous children at London Street. At this school the averages seem to have been composed largely of very good and rather bad. They were not the result of uniformly good nutrition. This is confirmed by the fact that the number of one-roomed houses associated with this school was large, and with the other fact that the percentage of 'thins' is as great as at North Canongate.

The correlation of the state of nutrition with the amount and kind of physical training is more complicated.

The amount of drill in school and play out of doors was, so far as I could judge, approximately the same for each school as a whole. I watched the various playgrounds during intervals and tried to form some conclusion from the number of idle or motionless children. But to find such a child was equally difficult in all the playgrounds. At South Bridge the classes were not one minute in the open-air before game groups were organised and actively at work. This was true of the other schools as well. Slowness of movement, quiescence, inactivity were conspicuously rare. Neither could I detect any registrable difference in the amount of noise. The playgrounds were all equally noisy. Within the schools, however, there were certain distinguishable differences. These are detailed under the heading of 'physical training.'

4. *Brightness and Alertness.*—The percentages for brightness and alertness in the individual schools exhibit no obvious relation to the nutrition. The percentage of 'goods' is greatest and the percentage of 'bads' least in Bruntsfield, where the average weight is greatest. London Street, again, shows a high percentage of 'bad,' a high percentage of 'good,' and a low percentage of 'medium.'

	Per cent. good.	Per cent. medium.	Per cent. bad.
South Bridge . .	53·3	44·3	2
London Street . .	59	28	12·6
North Canongate .	44	44	12
Bruntsfield . . .	71	27	1·3

The estimation of brightness and alertness was somewhat difficult. I based my conclusion in each case on such circumstances as these—the readiness in answering questions, the readiness to grasp what was required of them, the quickness of motion in carrying out a request, the capacity to attend. In the last I found very great variations. One instance stands out prominently. A bright-looking girl of nine or ten, apparently appreciating everything that was done, could not be persuaded to attend seriously to anything asked of her. She seemed to be concerned with everyone's business but her own. On examining her carefully, I found that she was mentally defective. Her alertness was simply readiness to be distracted with whatever happened. In another case, however, where smartness was not at first apparent, where the face was pale, where no smile lit the countenance, the tensity of attention was very great, every request was fulfilled without hurry, but perfectly and with intelligence.

Such cases as this last were all marked good. In another case where the readiness of attention was extreme and the alertness the same, I found that the pupil was the best in her section, and she turned out to be one of the cases of phthisis.

5. *Carriage and General Balance.*—These correspond roughly to the brightness and alertness. There were very few that one could justly call bad. The numbers recorded for each of the four schools show 86 good for South Bridge, 105 for London Street, 93 for North Canongate, and 120 for Bruntsfield.

6. *Cleanliness.*—Cleanliness of clothing and body is somewhat difficult to standardise. Of cases crawling with vermin—and there was an appreciable number of these—there could be no doubt. But of the clean skins showing many flea-bites it was more difficult to judge. Only 3·17 per cent. were marked bad for clothing, and only 8·5 per cent. for body. These, it is to be understood, were very bad. The general test of each school was not difficult to obtain :—In handling the children the examiner's hands were fouled in a much shorter time at some of the schools than at others. The largest percentage of unclean bodies and clothing was found at North Canongate. The percentage would probably have been greater than it was but for the measures taken at this school to secure cleanliness. The washing in the pond (see under Table I.) is optional, but a very large number of boys take advantage of the privilege and a smaller number of girls. The results were reflected in the children examined. The uncleanliness was not, as one might have expected, in proportion to the apparent poverty. The greatest proportion of unclean children was found among male children of six to nine. In the other schools there were extremely few unclean children of these ages. In a great many cases the weekly bath at home was found to be used systematically. In several cases a daily bath was common.

Measurements.—General Observations.

(*See* Tables IV., V., Va, Vb.)

1. *Apparatus.*—(*a*) For the measurement of 'height sitting,' an accident made it impossible to use the specially-prepared stool or the scale attached to it. I

TABLE IV.—Measurements.

(Corresponds with Aberdeen, Table XI.)

EDINBURGH.

Age-group.	Sex.	Number examined.	Weight.	Height.			Head.							Neck.	Trunk.				Limbs.				Grasping Power of Hands.	
				Standing.		Sitting.	Max. Length.	Max. Width.	Cephalic Index.	Min. Width of Fore-head.	Height.		Max. Circum-ference.	Minimum Circum-ference.	Circum-ference of Chest.	Width of Shoulders.	Width of Pelvic Crests.	Width of Hips.	Max. Girth of Fore-arm.	Max. Girth of Wrist.	Max. Girth of Calf.	Max. Girth of Ankle.	Right.	Left.
											Av. H.	Cal.											per sq. inch.	
			lbs.	ins.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	lbs.	lbs.
Above 6 and under 9	M.	100	46·60	44·52	113·08	63·95	18·10	14·18	78·34	9·51	12·16	12·25	51·32	24·17	56·94	24·63	19·50	20·29	16·50	11·26	21·71	14·53	6·30	6·28
	F.	99	45·62	44·51	113·06	63·08	17·60	13·84	78·64	9·65	11·76	11·89	50·13	23·75	55·85	24·44	19·74	20·60	16·32	11·22	22·21	14·60	5·54	5·84
Above 9 and under 12	M.	101	59·53	50·20	127·50	69·75	18·25	14·26	78·14	9·92	12·37	12·56	51·77	25·62	62·25	27·51	21·67	22·42	17·69	12·24	23·90	15·85	9·82	9·76
	F.	100	57·76	49·93	126·82	69·22	17·77	14·16	79·68	9·84	11·97	12·15	50·98	24·96	61·01	26·97	21·49	22·75	17·56	12·13	24·18	16·06	8·81	8·90
Above 12 and under 15	M.	100	74·02	55·26	140·36	74·65	18·61	14·53	78·08	10·20	12·59	12·84	52·73	27·14	66·63	30·06	24·11	24·73	19·28	13·22	26·60	17·14	11·82	11·47
	F.	100	78·36	55·65	141·36	75·64	18·28	14·41	78·83	10·06	12·16	12·28	52·23	26·79	66·37	30·05	24·10	25·96	19·46	13·43	27·53	17·62	11·13	10·65

TABLE V.—Showing Number of Children with Measurements deviating more than 5% from Average of Measurements for each Year of Age.

(Corresponds with Aberdeen, Table XII.)

EDINBURGH.

Age-group.	Sex.	Number examined.	Number with Measurements (for each Year of Age) exceeding	Weight.	Height.		Head.							Neck. Minimum Circumference.	Trunk.				Limbs.				Grasping power of Hands.	
					Standing.	Sitting.	Max. Length.	Max. Width.	Cephalic Index.	Min. Width of Forehead.	Height.		Max. Circumference.		Circumference of Chest.	Width of Shoulders.	Width of Pelvic Crests.	Width of Hips.	Max. Girth of Forearm.	Max. Girth of Wrist.	Max. Girth of Calf.	Max. Girth of Ankle.	Right.	Left.
											Av. H.	Cal.												
Above 6 and under 9	M.	100	5% above average.	39	19	12	6	7	...	18	11	8	6	16	17	19	24	19	21	16	25	25	36	37
			5% below average.	30	17	17	7	12	...	14	9	6	4	10	20	18	27	17	17	12	20	22	36	34
	F.	99	5% above average.	32	20	15	9	8	...	13	8	6	1	17	13	15	20	15	18	19	24	21	37	33
			5% below average.	43	20	19	10	7	...	7	8	9	4	18	16	24	24	24	15	22	25	18	43	48
Above 9 and under 12	M.	101	5% above average.	35	23	16	4	5	...	10	7	10	1	13	14	18	14	20	21	28	24	22	39	41
			5% below average.	41	19	14	5	10	...	9	3	8	1	11	21	17	24	47	19	23	22	25	44	42
	F.	100	5% above average.	30	21	12	5	9	...	8	9	9	1	7	14	26	17	24	18	20	22	29	38	32
			5% below average.	37	23	17	1	6	...	7	7	11	2	8	14	22	19	22	20	25	24	20	39	34
Above 12 and under 15	M.	100	5% above average.	28	12	12	6	11	...	15	10	22	5	15	19	16	12	20	23	22	19	12	36	32
			5% below average.	37	21	13	3	6	...	14	15	17	8	16	20	24	32	20	25	32	32	23	37	38
	F.	100	5% above average.	27	20	14	6	10	...	12	8	4	7	11	18	17	19	25	17	14	24	17	25	29
			5% below average.	49	26	23	8	5	...	14	4	5	9	23	30	27	27	37	26	33	38	30	53	51
Totals	M.	301	5% above average.	102	54	40	16	23	...	43	28	40	12	44	50	53	50	59	65	66	68	59	111	110
			5% below average.	108	57	44	15	28	...	37	27	31	13	37	61	59	83	84	61	67	74	70	117	114
	F.	299	5% above average.	89	61	41	20	27	...	33	25	19	9	35	45	58	56	64	53	53	70	67	109	94
			5% below average.	129	69	59	19	18	...	28	19	25	15	49	60	73	70	83	61	80	87	68	135	133
	Both Sexes.	600	5% above average.	191	115	81	36	50	...	76	53	59	21	79	95	111	106	123	118	119	138	126	211	204
			5% below average.	237	126	103	34	46	...	65	46	56	28	86	121	132	153	167	122	147	161	138	252	247

TABLE Va.—Showing Number of Children in the Four Schools with Measurements deviating more than 5% from Average of certain Measurements for each Year of Age.

(Has no corresponding Aberdeen Table.)

EDINBURGH.

Age-group.	Sex.	Number examined.	Number with Measurements (for each Year of Age) exceeding	Weight.				Height.				Circumference of Head.				Circumference of Chest.				Grasping Power—Right.			
				South Bridge.	London Street.	North Canongate.	Bruntsfield.	South Bridge.	London Street.	North Canongate.	Bruntsfield.	South Bridge.	London Street.	North Canongate.	Bruntsfield.	South Bridge.	London Street.	North Canongate.	Bruntsfield.	South Bridge.	London Street.	North Canongate.	Bruntsfield.
Above 6 and under 9	M.	100	5% above average.	9	10	7	13	4	7	2	6	1	2	0	3	3	3	3	8	7	12	4	13
			5% below average.	6	7	15	2	4	3	10	0	2	0	2	0	10	2	8	0	2	7	19	8
	F.	99	5% above average.	9	7	3	13	6	4	1	9	0	0	1	0	3	3	0	7	13	6	6	12
			5% below average.	11	8	19	5	7	3	9	1	2	0	2	0	7	2	6	1	8	16	15	4
Above 9 and under 12	M.	101	5% above average.	12	6	5	12	6	1	2	14	1	0	0	0	9	2	0	3	10	7	12	10
			5% below average.	10	10	13	8	5	4	8	2	0	0	0	1	2	5	9	5	11	13	12	8
	F.	100	5% above average.	9	9	5	7	3	7	4	7	0	0	1	0	2	3	2	7	9	9	11	9
			5% below average.	12	10	11	4	7	5	8	3	1	0	1	0	6	2	3	3	6	13	11	9
Above 12 and under 15	M.	100	5% above average.	6	10	5	7	2	3	2	5	0	0	0	5	4	6	3	6	10	8	12	6
			5% below average.	8	8	15	6	4	2	12	3	0	2	4	2	0	4	14	2	11	7	8	11
	F.	100	5% above average.	7	3	5	12	5	2	2	11	1	1	0	5	4	0	1	13	6	1	8	10
			5% below average.	12	16	15	6	6	8	10	2	5	1	3	0	8	12	10	0	13	18	12	10
Totals	M.	301	5% above average.	27	26	17	32	12	11	6	25	2	2	0	8	16	11	6	17	27	27	28	29
			5% below average.	24	25	43	16	13	9	30	5	2	2	6	3	12	11	31	7	24	27	39	27
	F.	299	5% above average.	25	19	13	32	14	13	7	27	1	1	2	5	9	6	3	27	28	16	25	31
			5% below average.	35	34	45	15	20	16	27	6	8	1	6	0	21	16	19	4	27	47	38	23
	Both sexes.	600	5% above average.	52	45	30	64	26	24	13	52	3	3	2	13	25	17	9	44	55	43	53	60
			5% below average.	59	59	88	31	33	25	57	11	10	3	12	3	33	27	50	11	51	74	77	50

TABLE Vb.—Showing for each School Weights and Heights at Nine Ages (6 to 14) as compared with Standard Average of Anthropometric Committee's Report, 1883.

(*Has no corresponding Aberdeen Table.*)

EDINBURGH.

Age Last Birthday.	Weight.												Height.											
	Males.						Females.						Males.						Females.					
	South Bridge School.	London Street School.	North Canongate School.	Bruntsfield School.	Average.	Anthropometric Committee's Standard Average.	South Bridge School.	London Street School.	North Canongate School.	Bruntsfield School.	Average.	Anthropometric Committee's Standard Average.	South Bridge School.	London Street School.	North Canongate School.	Bruntsfield School.	Average.	Anthropometric Committee's Standard Average.	South Bridge School.	London Street School.	North Canongate School.	Bruntsfield School.	Average.	Anthropometric Committee's Standard Average.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
6	43·63	43·5	40·28	47·09	43·63	44·4	40·63	43·00	39·95	45·92	42·38	41·7	43·45	43·71	42·18	44·11	43·36	44·00	41·80	43·49	41·9	44·08	42·82	42·88
7	46·42	48·11	41·86	50·97	46·84	49·7	45·56	43·88	39·44	52·09	45·24	47·5	44·54	45·26	41·40	46·38	44·40	45·97	43·58	43·96	43·08	46·69	44·33	44·45
8	48·53	51·23	47·92	49·63	49·33	54·9	50·28	50·88	41·96	53·88	49·25	52·1	45·42	46·32	45·22	46·27	45·81	47·05	46·81	47·04	43·97	47·77	46·40	46·60
9	56·34	56·68	51·03	55·25	54·83	60·4	48·19	52·89	52·50	54·18	51·94	55·5	48·11	48·94	46·31	49·09	48·11	49·70	45·81	48·52	47·41	48·57	47·58	48·73
10	63·56	59·52	55·56	63·75	60·60	67·5	59·50	58·59	52·53	61·63	58·06	62·0	51·60	50·12	48·56	52·84	50·78	51·84	50·74	48·09	47·84	52·04	49·68	51·05
11	61·41	59·63	62·88	68·78	63·18	72·0	62·91	66·33	62·69	61·16	63·27	68·1	51·38	50·98	50·76	53·69	51·70	53·50	51·70	53·13	52·07	53·23	52·53	53·10
12	71·63	72·98	64·42	69·06	69·52	76·7	70·21	70·62	64·64	74·63	70·03	76·4	54·57	54·88	52·07	54·10	53·91	54·99	53·46	54·13	52·39	54·33	53·58	55·66
13	73·98	78·28	72·22	77·97	75·61	82·6	79·54	69·61	80·63	84·47	78·56	87·2	55·21	56·65	55·03	56·61	55·88	56·91	56·39	53·60	57·04	58·12	56·29	57·77
14	77·75*	...	74·5†	79·83	77·36	92·0	...	102·50*	...	95·94	99·22	96·7	55·50*	...	55·85†	56·90	56·08	59·33	...	59·10*	...	59·64	59·37	59·80

* Only one child. † Only two children.

Note.—Shoes included in Anthropometric Committee's results; excluded in Edinburgh results

used instead an inch measure with adapted square piece, and followed strictly the directions laid down in Garson and Read's *Notes and Queries on Anthropology*, page 25.

(*b*) For the measurement of the skull from vertex to tragus, circumstances made it necessary to begin measuring with the callipers devised by Dr Hepburn of the Edinburgh University Anatomical Department. The callipers is known as the Hepburn-Waterston callipers, and my thanks are due to Dr Hepburn for its use. In using this instrument, Dr Edwin Matthew and myself followed the directions in Garson and Read's *Notes*, etc., page 23, applying the callipers in every case to the left side of the head. A few of the measurements were made by Dr Edwin Matthew; the great mass by myself. At the same time, I measured the heads with the 'double-vertical' instrument devised by Professor Hay. The difference in principle between the two instruments is this—with Professor Hay's, the measurement is made in the vertical plane of the tragus; with Dr Hepburn's instrument, the measurement is made from the tragus to the highest point of the skull when the head is set for taking the measurement of height standing or sitting (see Garson and Read's *Notes*, etc., page 23). There is usually no difficulty in determining the highest point, which as a rule coincides with the anatomical 'vertex,' and lies very frequently about half-an-inch to an inch and a half behind the plane of the tragus. The measurement was made only from one side. The average of the measurements with Professor Hay's instrument was taken, and I have placed the results of both instruments in columns side by side in Table IV. It has to be added that in South Bridge School only a few measurements were made with Hepburn's callipers, and they were not tabulated. Further, the last fifty children were not examined with the callipers. But in all, some 400 children were measured with both instruments. There is practically always a slight difference, the callipers giving the greater height. Except in a few cases, the same personal equation entered into both measurements.

In order that the instruments may be strictly compared, I give below the average of measurements recorded for the left side of the head with each instrument:—

Age.		Hay.	Hepburn.	Difference.
6–9	M.	12·21	12·42	0·21
	F.	11·73	11·89	0·16
9–12	M.	12·38	12·56	0·18
	F.	12·02	12·15	0·13
12–15	M.	12·60	12·65	0·05
	F.	12·24	12·28	0·04

2. *Division of Measurements.*—In all except about one hundred cases I took the following measurements personally:—Weight; height—standing and sitting; head—minimum width of forehead and height; trunk—width of shoulders, pelvis and hips. Dr Edwin Matthew took the others. The hand-grasping was equally divided.

3. *Comparison of Schools for Weight and Height.*—The differences between the schools are shown by the weights and heights. The contrast between North Canongate on the one hand and Bruntsfield on the other is too striking not to be dealt with in some detail. From other facts in the other tables, the condition and constitution of the school population in each of these schools have been set forth. It has been found that in North Canongate, the percentage of children in one- and two-roomed houses is vastly greater than in Bruntsfield. The cubic space per child is less. The percentage of stout children is less. In fact, taken generally, the children of North Canongate have been shown to occupy a worse position than those of Bruntsfield in the following respects—nutrition, alertness, amount of ear disease, amount of throat disease, cleanliness of body and clothing, and some other minor matters. On the other hand, Bruntsfield has shown a greater total of lung troubles, a fact not to be expected and not easy to explain.

In support of these general conclusions, we have the weights and heights. App. IX.

For children of six to nine, the comparative weights are as follows:—Males, North Canongate, 43·35 lbs.; Bruntsfield, 49·23; females, North Canongate, 40·45 lbs.; Bruntsfield, 50·63. There is thus a difference in favour of Bruntsfield of 5·88 lbs. for males, and 10·18 lbs. for females.

For children of nine to twelve, the figures are:—Males, North Canongate, 56·49 lbs.; Bruntsfield, 62·59 lbs.; females, North Canongate, 55·91, Bruntsfield, 58·99. There is thus a difference in favour of Bruntsfield of 6·10 for males and 3·08 for females.

For children of twelve to fifteen, the figures are:—Males, North Canongate, 70·38 lbs., Bruntsfield, 75·62; females, North Canongate, 72·63; Bruntsfield, 85·01. There is thus a difference in favour of Bruntsfield of 5·24 for males and 12·38 for females. But this is partly accounted for by the fact that a full complement of the fourteen to fifteen ages was to be found at Bruntsfield alone. Compare average less these ages.

These differences are very great. But they correspond with the general impression of the superior nutrition of Bruntsfield. Even if we allow a small difference for the difference in the weights of clothing—and the clothing of North Canongate children was markedly deficient—the margin against North Canongate is still very large. Among the factors that produce these differences, housing and food must be regarded as the chief. Race can scarcely count for much. My impression is that the races are more defined in the Canongate, more amalgamated in the Bruntsfield, population. But the differences of weight cannot be assigned to race. Neither can they be assigned to differences in physical training. So far as I could judge, the amount of training is approximately equal in both schools. But it must not be forgotten that the existence of such a class as these children of the Canongate are drawn from presupposes a long process of social selection. Into that class the thriftless and the inefficient of every variety tend to drift. On the other hand, the population of Bruntsfield School is supplied from a class selected by labour and occupation, which means greater physical efficiency. Consequently, the children of North Canongate are, to begin with, born from a class of distilled inefficiency. The hereditary factor must, therefore, count for something. But even if this is allowed for, the children were underfed and underclothed. The younger children particularly had little of the vigour and buoyancy associated with healthy childhood. As to clothing, flannel was rare among the underclothing. Obviously, the clothing in many cases had been made to fit sizes other than the wearers'.

These inferences, which are founded on direct observation, are confirmed by the Report of the Committee for Feeding and Clothing Destitute Children, 1901, where it is recorded that in North Canongate School 45 children received food and clothing, 137 food only. For the same year, at London Street School, 27 received food and clothing, 36 food only. At South Bridge, 12 received food and clothing, 34 food only. At Bruntsfield, none received clothing, and only 2 received food.

Recent facts confirm this. Accordingly, I feel justified in concluding that a large minority, if not the majority, of North Canongate school children are habitually underfed and underclothed.

This fact must be taken into account in any estimate of the value and urgency of physical education. The primary necessity is adequate food; the next is adequate clothing. A large number of the 150 children examined at North Canongate had neither. Already I have noted that the amount of physical exercise at this school is approximately the same as at the other schools. But physical exercise unsupported by adequate food and adequate clothing must result in early physiological exhaustion and infirmity. The prematurity of the street gamin means this and little else.

In comparison of the other schools with each other,

the differences are less striking, but still considerable. Thus, to take the four schools in the following order—(1) South Bridge, (2) London Street, (3) North Canongate, (4) Bruntsfield—the figures for weight are these:—

Males.

Age.	(1)	(2)	(3)	(4)	Average.
6 to 9	46·1	47·6	43·85	49·23	46·60
9 to 12	60·43	58·60	56·49	62·49	59·53
12 to 15	74·45	75·60	70·38	75·6	74·02

Females.

Age.	(1)	(2)	(3)	(4)	Average.
6 to 9	45·49	45·92	40·45	50·63	45·62
9 to 12	56·86	59·27	55·91	58·99	57·76
12 to 15	74·87	80·91	72·63	85·01	78·36

In weight, North Canongate is lowest in every age-group, male and female.

The corresponding figures for height are these:—

Males.

Age.	(1)	(2)	(3)	(4)	Average.
6 to 9	44·47	45·10	42·93	45·58	44·52
9 to 12	50·36	50·01	48·54	51·87	50·20
12 to 15	55·09	55·77	54·31	55·87	55·26

Females.

Age.	(1)	(2)	(3)	(4)	Average.
6 to 9	44·06	44·83	42·98	46·8	44·51
9 to 12	49·42	49·91	49·11	51·28	49·93
12 to 15	54·93	55·61	54·71	57·36	55·65

In height, as in weight, North Canongate is lowest.

Comparison of Weights.—For males of ages six to nine, South Bridge and North Canongate are below the average of the four schools,—South Bridge being 0·5 lb. less, North Canongate 3·25 lbs. less. London Street and Bruntsfield are respectively 1 lb. and 2·63 lbs. above the average.

For females of six to nine, South Bridge and Canongate are, respectively, 0·13 lb. and 5·17 lbs. below the average. London Street and Bruntsfield are, respectively, 0·3 lb. and 5 lbs. above the average.

For males of nine to twelve, London Street and North Canongate are, respectively, 0·93 lb. and 2·04 lbs. below the average. South Bridge and Bruntsfield are, respectively, 0·90 lb. and 3·06 lbs. above the average.

For females of nine to twelve, South Bridge and North Canongate are, respectively, 0·9 lb. and 1·85 lb. below the average. London Street and Bruntsfield are, respectively, 1·51 lb. and 1·23 lb. above the average.

For males of twelve to fifteen, North Canongate is 3·74 lbs. below the average. The other three—South Bridge, London Street and Bruntsfield—are, respectively, 0·43 lb., 1·58 lb., and 1·58 lb. above the average.

For females of twelve to fifteen, South Bridge and North Canongate are, respectively, 3·49 lbs. and 5·73 lbs. below the average. London Street and Bruntsfield are, respectively, 2·55 lbs. and 6·65 lbs. above the average.

Thus for every age-group, male and female, North Canongate stands lowest in weight and Bruntsfield highest.

Comparison of Heights.—For males of six to nine, South Bridge and North Canongate are, respectively, 0·05 in. and 1·59 in. below the average. London Street and Bruntsfield are, respectively, 0·58 in. and 1·06 in. above the average.

For females of six to nine, South Bridge and North Canongate are, respectively, 0·45 in. and 1·53 in. below the average. London Street and Bruntsfield are, respectively, 0·32 in. and 1·67 in. above the average.

For males of nine to twelve, London Street and North Canongate are, respectively, 0·19 in. and 1·66 in. below the average. South Bridge and Bruntsfield are, respectively, 0·16 in. and 1·67 in. above the average.

For females of nine to twelve, South Bridge, London Street, and North Canongate are, respectively, 0·51 in., 0·02 in., and 0·82 in. below the average. Bruntsfield is 1·35 in. above the average.

For males of twelve to fifteen, South Bridge and North Canongate are, respectively, 0·17 in. and 0·95 in. below the average. London Street and Bruntsfield are, respectively, 0·51 in. and 0·61 in. above the average.

For females of twelve to fifteen, South Bridge and North Canongate are, respectively, 0·72 in. and 0·94 in. below the average. London Street and Bruntsfield are, respectively, 0·04 and 2·29 ins. above the average.

Thus in height, as in weight, North Canongate is uniformly lowest, Bruntsfield is uniformly highest.

On other grounds, North Canongate is shown to be the worst nourished and Bruntsfield the best. The detailed comparison of weights and heights gives to the general impression an absolute confirmation.

4. *Comparison of Averages at each Age with General Averages.*—In a special table (VB.) I have shown the average weights and heights (males and females) for each of the four schools, side by side with the averages of the Anthropometric Committee's Report of 1883 (see Stevenson and Murphy's *Hygiene*, Trèves on *Physical Education*, page 544).

In general, the averages both for weight and height are below the Anthropometric Committee's standards. Bruntsfield School comes best out of the comparison. It is to be noted, however, that in the Anthropometric Committee's tables 'weights' include the weight of shoes; in the Edinburgh and Aberdeen tables shoes are excluded. Even if an allowance of three-fourths of a pound at the lower ages to two pounds at the higher be made, the relations of weights recorded are not very greatly disturbed.

5. *Chests—Comparative Measurements.*—The schools are kept in the same order as above.

Males.

	(1)	(2)	(3)	(4)	Average.
6 to 9	56·16	57·14	55·49	58·96	56·94
9 to 12	64·15	61·97	60·61	62·26	62·25
12 to 15	68·18	67·16	63·72	67·47	66·63

Females.

	(1)	(2)	(3)	(4)	Average.
6 to 9	54·91	56·34	54·53	57·62	55·85
9 to 12	60·15	62·17	59·76	61·94	61·01
12 to 15	65·81	65·77	64·25	69·63	66·37

Here again North Canongate at all ages, males and females, is lowest. South Bridge is highest for males of nine to twelve and twelve to fifteen.

Among males of nine to twelve London Street stands low. The same is true for weight and height. (See tables.)

Bruntsfield is always above the average, but the preponderance is not so striking in chest measurements as in weight and height.

All the infants of six to nine, and the females of twelve to fifteen, are strikingly best in Bruntsfield.

6.—*Grasping Power—Comparative.*

Males.

		(1)	(2)	(3)	(4)	Average.
6 to 9	R.	6·52	6·66	5·22	6·79	6·30
	L.	6·38	6·67	4·88	7·17	6·28
9 to 12	R.	9·65	9·37	9·69	10·57	9·82
	L.	9·33	10·03	9·25	10·41	9·76
12 to 15	R.	12·64	12·17	11·05	11·4	11·82
	L.	12·12	11·82	10·76	11·18	11·47

Females.

		(1)	(2)	(3)	(4)	Average.
6 to 9	R.	5·77	5·10	4·99	6·30	5·54
	L.	6·40	5·45	5·01	6·51	5·84
9 to 12	R.	8·77	8·25	9·29	8·91	8·81
	L.	9·46	8·11	8·98	9·04	8·90
12 to 15	R.	10·95	10·69	11·23	11·66	11·13
	L.	10·67	10·69	10·42	10·82	10·65

TABLE VI.—Teeth.

(Corresponds with Aberdeen, Table IV.)

EDINBURGH.

Age-group.	Sex.	Number examined.	Cleanliness of Teeth.			Number of Children brushing Teeth daily.	Number of Children showing delayed development of permanent Teeth.	Regularity of Teeth.			Shape of Teeth.			Decaying Teeth.				Teeth lost of Second Set. — Average Number per Child.
														First Set.		Second Set.		
			Good.	Medium.	Bad.			Regular.	Medium.	Irregular.	Good.	Medium.	Bad.	Number of Children.	Average Number of decaying Teeth in each Child with such.	Number of Children.	Average Number of decaying Teeth in each Child with such.	
Above 6 and under 9	M.	99	4	65	30	...	4	76	20	3	45	47	7	96	6·49	5	3·2	·02
	F.	94	12	62	20	5	4	66	28	...	44	44	6	93	6·48	5	2·6	·00
Above 9 and under 12	M.	99	5	64	30	1	8	62	29	8	58	35	6	93	4·49	16	3·0	·01
	F.	100	31	50	19	13	4	71	24	5	64	33	3	100	4·58	13	1·92	·00
Above 12 and under 15	M.	99	3	55	41	...	10	67	25	7	49	42	8	94	3·82	39	2·51	·01
	F.	100	11	55	44	12	14	59	31	10	50	43	7	95	3·86	32	2·38	·00
Totals.	M.	297	12	184	101	1	22	205	74	18	152	124	21	283	4·94	60	2·7	·01
	F.	294	54	167	73	30	22	196	83	15	158	120	16	288	4·96	50	2·28	·00
	Both sexes.	591	66	351	174	31	44	401	157	33	310	244	37	571	4·95	110	2·51	·007
Percentages . .		...	11·17	59·39	29·44	5·25	7·45	67·85	26·57	5·58	52·45	41·29	6·26	...	...	...	...	·68

App. IX.

In the muscular and nervous energy, as indicated by the mercury dynamometer, North Canongate, though as a rule low, is not very conspicuously lower than the other schools. The male children of six to nine are feebler; but those of nine to twelve are, with the right hand, better than the corresponding boys of South Bridge and London Street. In Bruntsfield, whose boys up to the nine to twelve ages lead, there is a distinct falling off in grasp at the ages twelve to fifteen.

Among females the North Canongate children of six to nine are the feeblest, but those from nine to twelve are strongest, and those from twelve to fifteen are almost equal to the best. In South Bridge and London Street there is a slight falling off at the ages of twelve to fifteen.

The dynamometer test is a fairly reliable test of musculo-nervous energy. Strong will plays an important part.

Where any doubt arose, the test was repeated. Where the muscle was feeble the second effort usually resulted in a lower reading than the first. Where the muscle was good the second reading frequently was higher than the first.

Note on Tables V. and Va.

These tables exhibit the deviations exceeding five per cent. from the average weight, height, and some other measurements.

In Table Va. I have shown these deviations for each of the four schools. The figures bring out with great emphasis the differences between certain schools. Thus to take an example, in the weight columns, it is found that, while North Canongate shows that among males of ages six to nine, seven were above the average by a deviation of more than 5 per cent. and fifteen below, Bruntsfield shows thirteen above and only two below. Similarly with females — North Canongate shows only three above and nineteen below, while Bruntsfield shows thirteen above and only five below. It is thus clear that the average weights at North Canongate were composed of a few good and a considerable number of bad, while at Bruntsfield they were composed of a few bad and a considerable number of good. The same is more or less true of the weights at the other ages. If the table is studied in detail, it will reveal with greater accuracy the relative conditions of the four schools in respect of weight, height, and the other measurements. For example, at South Bridge and London Street the number above and below were approximately equal, the number below being slightly in excess; at Bruntsfield the number *above* was considerably in excess; at North Canongate the number *below* was considerably in excess. So with heights, and circumference of chest, and less strikingly with grasping power.

App. IX.

Teeth.

(*See* Table VI.)

This table demands little comment. More than a fourth of the children were recorded as having unclean teeth. Only some 5 per cent. used a tooth-brush daily. Some seven per cent. showed delayed development of the teeth. The teeth of 67 per cent. were regular, and only 5½ per cent. showed irregularity. In 6 per cent. of cases the shape of the teeth was bad. In 571 cases out of 591 examined were found some decayed teeth of the first set. The average number of first set teeth so found decayed was 4·95. In 110 cases the second set showed decayed teeth, the average number of such teeth being 2·51. A considerable number showed defective teeth of both sets. The average number of the second set lost was 0·68.

Colour of Hair and Eyes.

(*See* Table VII.)

1. *Nutrition as shown by Hair.*—Apart from the question of colour, I was much impressed with the differences of nutrition as indicated by the hair. At

TABLE VII.—Colour of Hair and Eyes.

(*Corresponds with Aberdeen, Table V.*)

EDINBURGH.

Age group.	Sex.	Number examined.	Colour of Hair.				Colour of Eyes.			
			Black and Dark Brown.	Medium or Chestnut Brown.	Fair.	Red.	Dark.	Medium.	Light	
									All Blues.	Others.
Above 6 and under 9	M.	100	22	24	50	4	28	12	44	16
	F.	99	22	30	44	3	19	20	42	18
Above 9 and under 12	M.	101	22	38	34	7	35	19	36	11
	F.	100	33	33	30	4	27	16	42	15
Above 12 and under 15	M.	100	24	28	46	2	24	14	43	19
	F.	100	25	38	31	6	19	17	48	16*
Totals	M.	301	68	90	130	13	87	45	123	46
	F.	299	80	101	105	13	65	53	132	49
	Both sexes	600	148	191	235	26	152	98	255	95
Percentages . .			24·67	31·83	39·17	4·33	25·33	16·33	42·5	15·83

* Includes 1 heterochromic case—right, blue; left, blue and brown.

North Canongate, where the nutrition generally was defective, it was the exception to find a luxurious crop of hair either on boy or girl. At South Bridge this was less rare. At each of the other schools—London Street and Bruntsfield—the hair of the girls was so strikingly different that it was the first thing to be noted. Not only was the hair more profuse and better grown, it was more glossy, less broken, better moistened. In the North Canongate the hair rarely gave any evidence of careful attention. It was ill-nourished, thin, dry, and often dirty. Not infrequently, it was overrun with vermin. This was not unknown as an occasional thing in the other schools, but in none of them was the nutrition of the hair so deficient. These facts apply mainly to the girls.

2. *Colour of Hair and Eyes.*—In the schools, as a whole, light blue eyes predominated. In the individual schools, there were considerable variations. In South Bridge, there were 58 light blue; in London Street 75; in North Canongate 71; and in Bruntsfield 51. Of light eyes other than blue, the numbers for the schools taken in the same order were 11, 25, 24, 34 out of the 150 examined at each school. Of dark eyes there were, in the same order, 48, 26, 40, 38. Of medium eyes, 33, 24, 14, 27.

If we add together for each school the number of children with medium and light 'other than blue,' we find that the numbers for the schools are, 44, 49, 38, 61. Here there is a decided predominance in Bruntsfield. In the children of this school, I found great difficulty in deciding under what colour to place the eyes. I was struck with the large number of indefinite colours. In the Canongate, on the other hand, and at London Street, I was struck with the definition of the colours. The blue eyes were unmistakably blue, the dark eyes unmistakably dark. In one case at North Canongate School, I encountered a 'heterochromic' child, one eye being blue, the other brown and blue.

What the significance of these variations may be I am not prepared to say. But I had the feeling that by the general build and the hair, the definition of race was, to some extent, indicated. At Bruntsfield, my feeling was that I was among the products of several amalgamated races. In North Canongate, on the other hand, I seemed to see very pronounced streaks of pure race. At all the schools there were some Jews, and at South Bridge there was a considerable number. The racial distinction was quite unmistakable.

The races encountered, so far as one could identify them from hair, eyes, build and other characters of feature and manner, were mainly these:—Highland Celt, Scandinavian or Danish, Irish Celt, Jew, Anglo-Saxon, Italian, German, and the mixed race that constitutes the Lowland Scots—including the pronounced East Lothian and Border types. In a few cases, it was possible to trace definitely the combination between the fair or red-haired Celt and dark-eyed types.

At London Street, I was much struck by the large number of the Danish or Scandinavian type— blue eye, fair hair, finely diffused complexion. I have encountered this type in Leith very frequently.

The general conclusion that seems justified is that in the North Canongate for some reason the races are more pronounced; in the Bruntsfield population, the races are more amalgamated.

Eyes and Eyesight.

(*See* Table VIII.)

1. In the consideration of this table it is important to remember that there is a cardinal distinction between 'normal' in 'acuteness of vision' with both eyes in use, and 'emmetropic,' which means optically normal. A child with a low degree of long sight (hypermetropia) may, by using its accommodation, that is by straining the eyes, read precisely the same print at the same distance as a child with eyes optically perfect. Both cases would be reckoned 'normal' under the heading 'acuteness of vision.' For the immediate purposes of school life they would be on an equal footing. But as the child grows older the accommodation becomes less powerful, the defect in the refraction becomes more obvious, and in later life may actually be an obstacle to success in a particular trade or profession. Consequently, the need for spectacles (or correction) ought rather to be reckoned from the amount and kind of refraction-defect as revealed in each eye by the opthalmoscope than by the mere result of reading at a given distance with both eyes. Further, a child with one good eye may read the normal type, while the other eye is practically functionless. Several cases of this sort were discovered in the course of the examination. One child, seven years old, could read the smallest type on the distance sheet as if her vision were normal; but the right eye was practically useless (being highly hypermetropic.) Frequently, when there is this variety of difference between the eyes, squint results. In the particular case there was no squint. The 'acuteness of 'vision' had to be recorded as normal, although it was normal only for one eye.

For these reasons the number of 'emmetropic' eyes does not correspond with the number having 'normal' vision reckoned by the 'acuteness of vision.' The percentage with vision requiring correction is, however, reckoned on the reading (or 'acuteness of vision') test alone. The term 'requiring correction' is understood to mean 'requiring correction for school purposes 'at the time.' The correction necessary to neutralise the optical defect has, however, also been calculated, and the differences in the resulting percentages are somewhat striking. The optical defect is the true test of defective vision. The percentages reckoned in this way are as follows:—

Ages 6 to 9 .	Males, 58	;	Females, 55·54.
„ 9 to 12 .	Males, 55·44	;	Females, 55.
„ 12 to 15 .	Males, 51	;	Females, 54.
Total . .	Males, 54·81	;	Females, 54·51.
	Both, 54·66.		

Reckoned on the basis of the reading test, the percentage requiring correction was, for both sexes, 31 per cent., a little less than a third of the whole. Reckoned on the basis of defects of refraction, the percentage was 54—that is, a little over a half of the whole. This means that 23 per cent., although their eyes were optically defective, could yet use them to obtain normal vision. It ought never to be necessary so to use, or rather abuse, the eyes.

The precise figures for each eye were ascertained, but it was not considered necessary to record both eyes in the tables. Where one eye was normal and one defective, the child was entered as suffering from the defect of the defective eye. In those marked 'emme-'tropic,' both eyes were optically normal.

It will be noticed that the number of hypermetropic or long-sighted children is very much greater than the number of myopic, or short-sighted. This explains how it is possible for the number of those that read 'normally' to be *greater* than the number with *optically* normal eyes.

2. *Astigmatism.*—Apart from the question of ability to read at the proper distance, astigmatism may cause such discomfort as to affect the health and acquisitive capacity of a child. Over 12 per cent. of the children showed some degree of hypermetropic astigmatism, and some 5 per cent. showed myopic astigmatism. There were a few mixed cases.

3. *Other Defects.*—Among the 'other diseases' was one extremely marked case of 'conical cornea' of both eyes—an incurable condition, and very difficult to correct even partially. The child was, for reading purposes, almost blind. His education was defective, but his intelligence was good.

The number of children whose vision had actually been corrected by spectacles was very small.

4. *Squint.*—There were twenty-six cases of squint. This was in almost all the cases due to long-sightedness (hypermetropia) of one eye. Boys showed a decidedly larger number of cases than girls, there being twenty

TABLE VIII.—Eyes.

(Corresponds with Aberdeen, Table VI.)

EDINBURGH.

Age-group.	Sex.	Number examined.	Acuteness of Distance Vision. Scale No. of smallest Snellen's Type read at 6 metres.						Refraction of Eyes.							Percentage with Vision requiring Correction.	Number of Cases of Squint.	Diseases.				
			Normal.		Defective.				Emmetropia.	Hypermetropia.	Myopia.	Astigmatism.						Eyes.			Eyelids.	
			5	6	9	12	18	24				Hypermetropic.	Mixed.	Myopic.	Other.			Conjunctivitis.	Corneal Nebulæ.	Others.	Blepharitis.	Others.
Above 6 and under 9	M.	100	...	65	20	10	2	3	42	39	3	12	1	3	...	35	9	...	1	1	4	...
	F.	99	...	60	25	7	2	5	45	35	5	5	...	7	2	39·39	3	...	3	...	4	3
Above 9 and under 12	M.	101	...	70	16	7	4	4	45	23	6	20	1	4	2	30·65	7	1	2	1	6	2
	F.	100	...	70	13	6	6	5	45	28	6	13	...	8	...	30	3	...	8	...	6	2
Above 12 and under 15	M.	100	...	73	13	5	3	6	49	22	11	11	...	7	...	27	4	...	5	2	5	...
	F.	100	...	72	13	5	3	7	46	21	8	15	2	4	4	28	...	...	2	1	5	3
Totals	M.	301	...	208	49	22	9	13	136	84	20	43	2	14	2	30·90	20	1	8	4	15	2
	F.	299	...	202	51	18	11	17	136	84	19	33	2	19	6	32·44	6	...	13	1	15	8
	Both Sexes	600	...	410	100	40	20	30	272	168	39	76	4	33	8	31·67	26	1	21	5	30	10
Percentages . .			...	68·33	16·67	6·67	3·33	5	45·33	28	6·5	12·67	·67	5·5	1·33	...	4·33	·17	3·5	·83	5	1·67

cases among boys, as against six among girls. In many instances the defect, or rather deformity, might have been prevented or improved by treatment at the right time. In several cases surgical treatment might still produce a distinct improvement.

The numbers of those that could read at the normal distance were, for the individual schools, as follows:—South Bridge, 93; London Steeet, 72; North Canongate, 83; Bruntsfield, 87. The differences were not very marked. The numbers with defects of refraction were for the schools taken in the same order, 86, 79, 83, 80. It is thus clear that the defects of refraction are fairly well diffused in all the schools, none showing a great preponderance. This forms a striking contrast to the defects, such as enlarged tonsils or ear diseases, which depend so much on the environment. The ordinary refraction defects of the eye are always congenital, and may be made worse by environment. The general inference, more or less justified by this contrast, is that where the defect is hereditary it must be met by correction of the individual defect; but where it depends on nurture or housing, or other hygienic condition, or improper use, it must be met by preventive measures. In all cases the conditions of home and school should be such as not to aggravate either inherited or acquired defects.

5. *Diseases of Eyes.*—There was only one case of conjunctivitis. There were twenty-one cases of corneal ulcers or nebulæ. These are sometimes an index of tubercular disposition. The greater number were found in girls.

6. *Diseases of Eyelids.*—The principal disease of the eyelids was blepharitis (chronic inflammation of eyelids), including styes. The cases were usually found associated with some defect of refraction. In all, there were thirty such cases. The number of other eyelid diseases was trifling.

For the individual schools the numbers of eyelid diseases were as follows:—South Bridge, 14; London Street, 19; North Canongate, 30; Bruntsfield, 16. Here, as in so many other connections, North Canongate school is worst.

Ears and Hearing.

(*See* Table IX.)

1. *Number Examined.*—In this table the number examined is given as 597. The deficiency is due to the absence of three cases at the time fixed for examination of ears. This number, however, is too small to affect averages.

2. *Keenness of Hearing.*—From the conditions of the schools the watch-test of keenness of hearing was not particularly reliable. It was extremely difficult to find a room suitable at once for the watch test and for the speculum examination of the ears. The diffused noises of the school, the varying noises of the street, the periodic flooding of the playgrounds with noisy children, all contributed to reduce the value of the test. And with the younger children, there was another disturbing factor—suggestion. They answered 'yes' or 'no' largely according to their belief as to what was expected of them. With care and time, this might have been eliminated in every case; but even with the older children, it was extremely difficult to make certain that the sound supposed to be heard was not a suggested sound. In several instances I tested the hearing afterwards by speaking in a very low voice. In most cases this confirmed the results got by the watch, but the cases thus verified were too few to constitute a real check.

On the other hand the 'distinctly defective' children are probably all as defective as the watch-test indicates. By many of them the watch could be heard only on contact, or at a distance of a few inches or one foot. In all such cases a minute examination of each ear was made, and, except in one case—where the internal ear was affected—some definite defect of the middle ear was discovered. The watch-test was thus of value less for testing the minute discrimination of distances than for the revelation of major defects. But it has to be remembered that children at school are accustomed to pick out sounds from a diffused matrix of irrelevant sounds, and this must be counted in favour of the watch-test results.

The percentage of 'distinctly defective' children was 6·70; of 'defective,' 35·34; of normal, 57·96.

Among males the percentage of 'defective' and 'distinctly defective' taken together was 38·5; among females, 45·63; both sexes, 42·04. The highest percentage—55—was found among females of nine to twelve; the lowest—34—among males of twelve to fifteen. The females of all three age-groups show a greater number of 'defectives' and 'slightly defectives.'

This result is confirmed by the figures in the 'disease' columns. If we take all the 'diseases,' including 'cerumen,' and including also the diseases of the throat, we find that, among females, the number was 294; among males, 259; excess for females, 35. If we deduct cerumen, the numbers become—for females, 221; for males, 189. If we confine ourselves to the specific ear diseases, the numbers become—for females, 115; for males, 100; excess for females, 15.

3. *Special Ear Diseases.*—(*A*) *Otitis Media and Perforation.*—This column probably does not include all the cases of perforation with inflammatory discharge; it should be read along with the column headed 'dry perforation' and 'chronic catarrh.' These three columns, along with the column 'Cicatrices,' fairly represent the amount of middle ear and tympanic disease.

(*B*) *Retracted Membrana Tympani.*—In many cases the retraction was very slight, in others it was very well marked, in every case of the 169, except 20, it was associated with enlarged tonsils, or with adenoids, or with both. Retraction of the membrane signifies closing of the Eustachian tube, which was not specifically ascertained in each case.

For the particular schools the facts are as follows:—

(*a*) *South Bridge.*—Cases of retracted membrane, 52; total enlarged tonsils or enlarged tonsils with adenoids, 115.

(*b*) *North Canongate.*—Retracted membrane, 53; enlarged tonsils or tonsils with adenoids, 80.

(*c*) *London Street.*—Retracted membrane, 36; enlarged tonsils or tonsils with adenoids, 65.

(*d*) *Bruntsfield.*—Retracted membrane, 28; enlarged tonsils, or tonsils with adenoids, 53.

The very large number of tonsils in South Bridge School is probably in part due to the fact that South Bridge was examined first. The standard applied was naturally more exacting. In respect to the diseases of the ears, South Bridge runs practically parallel with North Canongate, both having a higher total of ear diseases than either London Street or Bruntsfield. Probably, on a careful comparison, case for case, the state of the throats would also be more nearly equal.

(*C*) *Cerumen.*—Cerumen (wax) was found in excess in 144 instances. Sometimes the quantity produced impaction of the tympanum, with distinct deafness. Very frequently the cerumen obscured the tympanum. Except in the impacted cases, cerumen cannot be designated a disease, but its presence in excess is evidence of inattention to the ears, or of injudicious moistening, or of general neglect of cleanliness. For the individual schools the cases were:—South Bridge, 47; London Street, 29; North Canongate, 46; Bruntsfield, 21.

(*D*) *Others.*—The diseases in this column were such as these:—Atresia, or narrowing of the external ear passage; eczema of the ears; inflammation of lobule; mastoid disease, etc.

(*E*) *General.*—Practically all the diseases found were due to preventable causes. The great majority were amenable to treatment. An exhaustive examination under hospital conditions would have involved syringing of many ears, and probably would have resulted in the discovery of more defects of a serious nature.

TABLE IX.—EARS.

(Corresponds with Aberdeen, Table VII.)

EDINBURGH.

Age-group.	Sex.	Number examined.	Keenness of Hearing,—Average of both Ears. Distance at which Watch heard.			Percentage with Defective Hearing.	Diseases and Causes.									
			8 feet and upwards. Normal.	4 feet and under 8. Defective.	Under 4 feet. Distinctly Defective.		Otitis Media and Perforation.	Dry Perforation.	Retracted Membrana Tympani.	Chronic Catarrh.	Cicatrices.	Cerumen.	Enlarged Tonsils only.	Enlarged Tonsils and Adenoids.	Adenoids only.	Others.*
Above 6 and under 9	M.	98	62	29	7	36·73	2	0	28	2	1	21	7	13	10	2
	F.	99	55	35	9	44·44	2	1	29	2	2	23	9	15	6	3
Above 9 and under 12	M.	101	56	34	11	44·45	1	3	29	2	2	25	7	13	5	6
	F.	100	45	50	5	55	5	2	28	4	2	28	13	16	6	2
Above 12 and under 15	M.	100	66	30	4	34	3	0	26	0	1	24	6	13	6	1
	F.	99	62	33	4	37·37	2	2	29	3	2	22	11	13	6	6
Totals	M.	299	184	93	22	38·46	6	3	83	4	4	70	20	39	21	9
	F.	298	162	118	18	45·64	9	5	86	9	6	73	33	44	18	11
	Both Sexes	597	346	211	40	42·04	15	8	169	13	10	143	53	83	39	20
Percentages . .			57·96	35·34	6·70	...	2·51	1·34	28·31	2·18	1·68	23·95	8·88	13·90	6·53	3·35

* Includes all cases of Ear Diseases. Throat: Includes only such cases of Throat Disease as co-existed with Defective Hearing.

Nose and Throat.

(*See* Table X.)

1. *Enlarged Tonsils.*—The number of children suffering from enlarged tonsils alone—that is, uncombined with adenoids—was 147. Of these, 71 were found in South Bridge School, 27 in London Street, 22 in North Canongate, and 27 in Bruntsfield. The distribution between boys and girls was fairly equal, the girls showing a slight preponderance, which was maintained in all the schools except Bruntsfield. In South Bridge, 40 girls were affected, as against 31 boys; in London Street, 14 girls, as against 13 boys; in North Canongate, 13 girls, as against 9 boys; and in Bruntsfield, 10 girls, as against 17 boys.

2. *Enlarged Tonsils and Adenoids.*—Here, too, there is a slight preponderance among the girls, but only at the six to nine and nine to twelve age-groups. The numbers for the individual schools were—South Bridge, 20 girls, 20 boys; London Street, 10 girls, 9 boys; North Canongate, 19 girls, 17 boys; Bruntsfield, 10 girls, 6 boys.

3. *Adenoids alone.*—Here there is a slight preponderance among boys.

If enlarged tonsils and adenoids be taken together, it is found that the school showing most cases was South Bridge, 115; next North Canongate, 80; next London Street, 65; next Bruntsfield, 53. Probably South Bridge suffers to some extent in the comparison from the fact, noted elsewhere, that it stood first in the series; but as the same examiner dealt with all throats, and as care was taken that the standard should be kept as uniform as possible, the 'personal equation' cannot count for much. All enlargements, slight or great, were noted.

Tonsils and adenoids, singly or in combination, are of the first importance in relation to physical development. They are a decisive indication of the importance of discipline in breathing. No special note was taken of mouth-breathers, but, from a general impression, I concluded that the number was very large. From the standpoint of physical training, the mouth-breathers—that is practically all those affected with adenoids, and most of those affected with enlarged tonsils—ought to be specially classified, and specially disciplined in correct habits of breathing. In many of the cases operation was indicated.

Diseases.

(*See* Table XI.)

1. *Skin Diseases.*—The number of skin diseases found was trifling. The cases were eczema of the mouth, impetigo, psoriasis, and the like. There was one case of scabies and no case of ringworm. In one of the schools, however, there was a good deal of verminous irritation of the heads, and in some of these cases the post-cervical glands were affected. This, in part, accounts for the large number of glands recorded. In most instances the slight enlargement of the glands was in itself of no consequence; but it was thought right to record even trifling enlargement, since it must be assumed as among the possibilities that those irritated glands more readily become the seat of tubercular infection than normal glands do.

2. *Glands.*—The large number of glands has been partly accounted for above. The number of true tubercular glands was not great; but neck glands are always an indication of tissue susceptibility, and any gland may become tubercular. The incidence of glands varied with the schools. In South Bridge, 45 cases of enlarged glands were found; in London Street, 25; in North Canongate, 34; in Bruntsfield, 7. The small number of children found with affected glands at Bruntsfield was so striking that special attention was given to the examination, but the total number discovered did not exceed 7. This conforms to the facts recorded in the other tables, where the contrast between this school and the other schools, especially North Canongate, is sufficiently emphasised.

It is worthy of notice that the boys show a much larger number of glands than the girls. Boys show 66, as against girls, 45. Boys of nine to twelve show this preponderance most markedly. In North Canongate there were 24 gland-affected boys as against 10 girls,

TABLE X.—Nose and Throat.

(*Corresponds with Aberdeen, Table VIII.*)

EDINBURGH.

Age-group.	Sex.	Number examined.	Enlarged Tonsils only.	Enlarged Tonsils and Adenoids.	Adenoids only.	Sense of Smell Defective.
Above 6 and under 9	M.	98	20	18	14	...
	F.	99	23	23	6	..
Above 9 and under 12	M.	101	20	18	8	...
	F.	100	20	20	10	...
Above 12 and under 15	M.	100	30	16	9	...
	F.	99	34	16	8	...
Totals	M.	299	70	52	31	...
	F.	298	77	59	24	...
	Both Sexes	597	147	111	55	...
Percentages . . .			24·62	18·62	9·21	...

TABLE XI.—Diseases and Deformities.
(*Corresponds with Aberdeen, Table IX.*)

EDINBURGH.

Age-group.	Sex.	Number examined.	Number of Children suffering from Diseases of—											Total number of Children suffering from Disease.	Total number of Children suffering from Deformities.	
			Skin.	Glands.	Bones.	Joints.	Heart.	Lungs.	Abdominal Organs.	Eyes and Eyelids.*	Ears.	Nose and Throat.	Other Diseases.		Congenital.	Acquired.
Above 6 and under 9	M.	100	5	25	4	1	5	4	...	6	34	52	...	77	...	3
	F.	99	1	18	1	...	3	3	...	10	42	52	...	71	...	...
Above 9 and under 12	M.	101	3	23	2	...	7	4	...	12	41	46	3	73	...	1
	F.	100	1	12	1	...	...	3	...	16	44	50	2	65	...	...
Above 12 and under 15	M.	100	...	18	4	...	6	2	...	12	31	55	1	70	...	6
	F.	100	...	15	1	...	5	2	...	11	44	58	...	67	...	...
Totals	M.	301	8	66	10	1	18	10	...	30	106	153	4	220	...	10
	F.	299	2	45	3	...	8	8	...	37	130	160	2	203	...	...
	Both sexes.	600	10	111	13	1	26	18	...	67	236	313	6	423	...	10
Percentages . .			1·67	18·5	2·17	·17	4·33	3	...	11·17	39·33	52·17	1	70·5	...	1·67

* Excluding squint: in order downwards, 9 – 3; 7 – 3; 4 – 0; 20 – 6; total 26. (See Table VIII.)

and at Bruntsfield all the 7 cases were boys. In South Bridge and London Street the distribution was approximately the same in boys and girls.

From any point of view, the number of glands is very large. It is equivalent to 5550 cases among the 30,000 children of the Edinburgh schools.

3. *Bones—Joints.*—The amount of bone disease was trifling, and there was only one case of joint disease. The comparative absence of bone and joint disease is probably due in part to the fact that the hospital service of Edinburgh, being open to all classes, results in the elimination of bone and joint cases from the school population. In most cases the defects were due to rickets. In each of the three schools—South Bridge, North Canongate, and London Street—4 cases of rickets were found; in Bruntsfield no case of bone or joint disease was found.

4. *Heart and Lung Diseases.*—In view of the primary importance of Heart Disease and Lung Disease in relation to Physical Training, I have detailed the cases of heart disease, phthisis, pneumonia, and bronchitis discovered among the 600 children selected. I have considered each case on its merits; I have estimated the seriousness of the disease according to the circumstances as verified at the time, and I have given an opinion from the standpoint of a Medical Inspector of Schools. I have to add that the principle followed in the examination of the chest and heart was that the child should have the benefit of any doubt; that the cases described were thoroughly verified so far as was possible from physical signs alone, and that, accordingly, the cases may be regarded as well-marked and serious. I am also of opinion, from general impressions of the children personally handled, that a leisurely examination under hospital conditions would have revealed an even larger number both of heart and of lung affections.

Of the heart cases, all should be under medical supervision; the majority should be strictly regulated in their exercises; a few should be forbidden the ordinary exercises, and placed under physical training applicable to heart cases; one or two should, for a time at least, be excluded from school.

Of the phthisis cases, all should be excluded from school if a cure is to be expected. Neither the atmosphere nor the excitement of the school can be regarded as other than harmful to any case of phthisis. In at least one of the cases the danger from the child's sputum was not a negligible quantity. In the other cases, the danger from infection was practically none, but might become considerable within a few weeks or months. One of the children affected was the most brilliant child of the 600.

Of the bronchitis cases, three were unfit to be at school; none of the four was fit for the ordinary exercises.

It is proper to add that in a few of the most marked cases the headmaster had secured that no exercises, or only light exercises, were exacted. In the majority of the cases there was no symptom likely to impress any one unfamiliar with the methods of medical examination.

5. *Cases of Heart Disease.*—Case I.—Aged thirteen years and ten months, girl. *Functional murmur.* This girl was pale in complexion. The heart affection was merely a functional murmur. She occasionally 'kept 'house' for her mother. Attendance bad. In nutrition she was thin. She also suffered from a dry perforation of the left ear. Tonsils enlarged, adenoids present. This girl was not fit for school work at the time of examination.

Case II.—Female, aged thirteen years and six months. *Irregular heart.* This girl suffered from irregularity of the heart. In nutrition stout. Mental capacity good. She weighed 91½ lbs., which was much above the average for girls at that school. Exercise—usual school drill and outdoor exercise.

Case III.—Male, eight years and seven months. *Mitral stenosis.* This boy was dull in mental capacity; medium in attendance; irregularly pale in complexion; medium in healthiness of appearance. He suffered from mitral stenosis. He was distinctly defective in hearing. His tonsils were enlarged. His ear-membranes were retracted. He weighed only 40·5 lbs. He was a competent enough child; but he was physiologically disqualified to benefit either by the ordinary school education or by any of the drills or exercises of the school.

Case IV.—Female, aged six. *Congenital pulmonary stenosis.* Her mental capacity was good; her attendance good. She had two half-hours a week of musical drill. Skipping, balls, etc., were the recorded games. In nutrition, she was very thin. She was bright and alert. Her weight was 38·5 lbs. In other respects, she appeared healthy. Such a case requires medical supervision.

Case V.—Female, aged six. *Mitral stenosis* and *mitral incompetence.* Irregular pulse. This girl was medium in mental capacity, pale, unhealthy in appearance, and thin. She weighed 42 lbs. She suffered from squint and hypermetropia. She underwent drill two half-hours weekly; drill in class daily—including hand-bell drill; skipping, racing, jingo-ring, etc. She was entirely unfit for such exercises, and probably her heart condition was aggravated by them. She ought to be under medical supervision.

Case VI.—Female, aged twelve years and one month. *Mitral incompetence,* due to rheumatic fever. Suffered from rheumatism from time to time. She was ruddy in complexion, of medium healthiness in appearance, of medium nutrition, of medium mental capacity. Her weight was 71½ lbs. She suffered from myopic astigmatism in one eye and hypermetropia in the other. There was slight retraction of ear-membranes, but no marked deafness. Her physical exercises, as recorded were—military drill, two half-hours weekly; skipping-ropes; quarter of an hour daily, free gymnastics. This girl ought not to be permitted exercise except under medical supervision.

Case VII.—Female, aged thirteen years and six months. *Impure first sound.* In this case, the attendance was bad; mental capacity medium; in most other respects medium or bad. Weight, 68½ lbs. There was chronic otorrhœa of both ears. She also suffered from adenoids and swelling of cervical glands. On the whole, she was unhealthy. Her physical exercises were as in Case VI. She ought to be under medical supervision, both for physical exercise and general health.

Case VIII.—Male, seven years and six months. *Mitral disease; rickets.* Dull in mental capacity; pale, unhealthy in appearance, thin; bad in alertness and carriage. Weight, 48½ lbs. Exercise—close drill, hand-bell drill, two half-hours weekly; action songs; football, racing. This child ought to be under medical supervision. The physical exercise described would certainly aggravate his condition. At the time of examination, he was unfit for the exercises named.

Case IX.—Male, aged eight years and four months. *Mitral stenosis; irregular pulse.* Medium in capacity. Ruddy, healthy in appearance, stout; bright and alert; good in carriage. Weight, 61¼ lbs. Hypermetropic. Exercises—same as other infants. This child ought to be under medical supervision. Indiscriminate exercise would aggravate his heart defects. His good muscular condition constitutes a temptation to over-exertion.

Case X.—Male, aged ten years and three months. *Reduplicated second sound; chronic inflammation of middle ear.* This boy was good in mental capacity; perfect in attendance; pale, medium in health appearance, of medium stoutness. Weight, 55¼ lbs. He had chronic inflammation of left middle ear. The exercises recorded were—dumb-bell exercise and boys' games. As 'reduplicated second sound' may indicate failing heart muscle, this boy should be under medical supervision.

Case XI.—Male, aged ten years and five months. *Impure first sound.* This boy was ruddy in complexion, healthy in appearance, and stout. Weight, 69 lbs. His case was one for observation and supervision. Usual exercises.

Case XII.—Male, aged twelve years and eleven

months. *Old pericarditis.* This boy was recorded as excellent in mental capacity. His attendance was 'bad'—on account of bad health. He was ruddy in complexion, moderately healthy in appearance, stout and alert. Weight, 72·75 lbs. He was slightly deaf, membranes being retracted. His old pericarditis seemed to give no trouble at the time. His exercises included physical drill, half-hour weekly, and running. The case was one for supervision.

Case XIII.—Male, aged thirteen years and eight months. *Irregular heart, second sound accentuated.* This boy was recorded as medium in capacity; good in attendance; pale, but not unhealthy in appearance; stout, alert. Weight, 80 lbs.

He had been at drill in the forenoon; he was examined in the afternoon. He was admirably developed, measuring about 5 feet in height. His exercises were—Drill, fifteen minutes weekly; football, half-an-hour daily; cricket, in summer, one hour weekly. He seemed to be in excellent training; but the irregularity of the pulse clearly indicated that the amount of severe exercise was excessive, and that a continuation of it at the same pitch would ultimately produce serious heart defects. Although the general health seemed excellent, the excessive attention paid to muscular training had resulted in temporary interference with the functions of the heart. This boy's exercises ought to be under skilled supervision.

Case XIV.—Male, aged thirteen years and two months. *Irregular heart; thumping first sound.* This boy was good in mental capacity, medium in complexion, healthy in appearance, stout, very alert. Weight, 88½ lbs. He was admirably developed. He suffered from acute suppuration of the middle ear, with perforation of the drum. This was said to be the result of injudicious bathing at the public baths. His exercises were much the same as in the last case—military drill, half-an-hour weekly; football, three-quarters-of-an-hour daily; free gymnastics. The violent beating of the heart was painfully manifest, being quite perceptible at a distance. Possibly the excitement incident to the examination may have accentuated the condition; but this would apply equally to other cases, where no irregularity of pulse or violence of palpitation was found. As in the last case, so in this, the over-exercise had resulted in a disturbed heart, and, no doubt, would, in course of time, produce permanent defects. This boy ought to be under medical supervision.

Cases IV. to XIV. inclusive were found in one of the four schools.

Case XV.—Male, aged six years nine months. *Mitral incompetence.* Good in mental capacity; bad in attendance; pale; bad in health appearance; thin; medium in alertness. Weight, 38·5 lbs. Slightly deaf. Specially noted as—'Slow, dejected, and underfed.' Father lived in a house of one room. Exercise—drill, one hour a week; playground games; marching. This child was not fit to be at school.

Case XVI.—Male, seven years five months. *Mitral incompetence.* House, two rooms. Good in mental capacity; bad in attendance; pale; unhealthy in appearance; thin; bright and alert Weight, 40·75 lbs. He suffers also from chronic ear catarrh and perforation of drum. Special note,—'smart, but dirty 'and badly fed.' Exercise, as in Case XV. This child was unfit to be at school.

Case XVII.—Male, nine years seven months. *Mitral stenosis.* House, one room. Medium in capacity; medium in complexion; good in health appearance; thin; alert. Weight, 40·5 lbs. Slight deafness; retracted membrane. Exercise—physical drill, half-an-hour weekly; football; swimming. This boy was diminutive for his age; very spirited and restless. He seemed to suffer no inconvenience from the heart condition. But such a case should be under observation.

Case XVIII.—Male, aged nine years five months. *Mitral incompetence; irregular pulse.* House, three rooms. Excellent in mental capacity and attendance. Medium in complexion, health appearance, and nutrition; very alert; good carriage; clean. Weight, 57·5 lbs. Deaf; wax in ears. Exercise—drill, half-hour weekly; football, cricket, walking, swimming. The irregularity of the pulse indicated that this boy was indulging in excessive muscular exercise. He ought to be under medical supervision.

Case XIX.—Male, ten years eleven months. *Mitral incompetence.* House, two rooms. Dull in mental capacity; good in attendance; pale; unhealthy in appearance; thin. Weight, 53 lbs. Eyes very defective; internal squint: hypermetropia of both eyes. Suffered from adenoids. Slightly deaf. Retracted membranes. Exercise—as in the last case. This boy was not fit for drill, and ought to be under medical supervision.

Case XX.—Male, aged thirteen years ten months. *Mitral incompetence,* due to rheumatic fever at age of five. House, two rooms. Medium in mental capacity; perfect in attendance; pale; moderately healthy in appearance; thin; fairly alert. Weight, 54 lbs. Slightly deaf. Enlarged tonsils. Adenoids. Post-cervical glands enlarged. Special note,—'Wears 'no flannel.' Exercise—physical and military drill, half-hour weekly; football; cricket; playground games; swimming. This is a case for medical supervision.

Cases XV. to XX. inclusive were found in one school. There was a gymnasium; also a small swimming pond, which was very popular with the boys.

Case XXI.—Female, six years six months. *Congenital affection of pulmonary valves* and *phthisis of right apex.* This child was of medium mental capacity; pale; unhealthy in appearance; thin; alert; of good carriage. She had well-marked consolidation of the right apex. Her mother had died of phthisis. There was a congenital affection of the pulmonary valves of the heart. The combination of this with phthisis is comparatively uncommon. Exercise—dumb-bells twice weekly for fifteen and twenty minutes; skipping and other playground games. This child was quite unfit to be at school and ought to be under medical treatment.

Case XXII.—Female, aged fifteen. *Mitral stenosis.* This girl was dull in mental capacity; good in attendance; pale; medium in health appearance; medium in nutrition. Weight, 89·25 lbs. Tonsils enlarged. Slight deafness. Exercise—free gymnastics, half-hour weekly. There were no symptoms to indicate that there was any inconvenience from the heart trouble. But such cases should not indulge in exercise without medical direction.

Case XXIII.—Male, aged ten years six months. *Irregular pulse; slight chorea.* This boy was excellent in capacity; good in attendance; pale; unhealthy in appearance; thin; alert. Weight, 54·25 lbs. Exercise—physical drill, half-hour per fortnight. This is a case for medical examination.

Case XXIV.—Male, ten years five months. *Pulmonary valves affected.* This boy was excellent in capacity; good in attendance; pale; moderately healthy in appearance; alert. Weight, 61·5 lbs. Exercise—physical drill, half-hour per fortnight. The slight heart affection did not seem to incommode him in any way. There was no indication of excessive exercise.

Case XXV.—Male, thirteen years. *Mitral stenosis.* This boy was medium in capacity; good in attendance; pale; unhealthy in appearance; thin; medium in alertness. Weight, 58 lbs. Eyesight defective; slightly deaf on account of wax in ear. Exercise—drill, half-hour per fortnight; football, swimming. This is a case for correction of eyesight, examination of ears, and general medical supervision.

Case XXVI.—Male, thirteen years two months. *Irregular pulse.* This boy was excellent in capacity; good in attendance; medium in complexion; good in health appearance; stout; very alert. Weight, 72 lbs. Slight long-sight. Exercise—physical drill, quarter of an hour weekly; football, cricket, swimming. The irregular pulse suggested the probability of over-exertion. This is a case for periodic medical examination.

Cases XXI. to XXIV. inclusive were found in one school.

(6). *Cases of Lung Disease*—(*A*) *Phthisis.*—Case I.—Female, nine years seven months. *Phthisis.* House, four rooms. Mental capacity, good; attendance, good; complexion, ruddy; healthy in appearance; moderately well nourished; moderately alert. Weight, 52 lbs. Hearing defective; eyes slightly defective; well-marked phthisis, with moist sounds. This girl ought to be under treatment.

Case II.—Female, eleven years five months. *Phthisis.* Mental capacity, medium; attendance, good; complexion, ruddy; health appearance, medium; stout; alert. Weight, 73 lbs. This is excessive weight for the age. Neck glands affected. Exercise—no gymnastics; usual school games and drill. Phthisical condition of lungs well marked. This girl ought to be under treatment.

These two cases were at one school.

Case III.—Female, eight years one month. *Phthisis.* House, one room. This girl was dull in mental capacity; medium in attendance; medium in complexion, in health appearance, in nutrition. Weight, 49·5 lbs. Slight deafness in one ear. *Special note.*—'Badly sent out.' Neither clothing nor body was clean. Eyesight slightly defective. There was consolidation of the right apex. This child ought to be under medical treatment.

Case IV.—Female, twelve years two months. *Phthisis.* House, two rooms. Mental capacity, good; attendance, medium; pale; moderately healthy in appearance; medium in nutrition; alert. Weight, 60·78 lbs. Enlarged tonsils. Glands in neck swollen; old operation. Incipient phthisis in right apex. Exercise—military drill, half-hour weekly; skipping, free gymnastics. This girl ought to be under medical treatment. Exercise should be under strict medical control, otherwise the disease will advance rapidly. *Special note.*—'Best teeth seen yet'—that is, after over 400 examinations.

Case V.—Male, twelve years three months. *Phthisis.* Mental capacity, good; attendance, good; pale; medium in health appearance; thin; alert. Weight, 68 lbs. Slight deafness, due to retracted membranes; adenoids; right apex affected. Exercise—drill, half-hour weekly; free gymnastics, football; Boys' Brigade. This boy ought to be under medical treatment.

Case VI.—Male, thirteen years five months. *Phthisis.* This boy was medium in capacity; good in attendance; ruddy; healthy in appearance; stout; alert; good carriage. Weight, 93 lbs. In every respect well developed. Exercise—including drill, half-hour weekly; football, half-hour daily; free gymnastics. There was nothing to indicate that the exercise was excessive; but the boy ought to be under medical treatment, in case the disease should develop rapidly.

These four cases—III.–VI.—were at one school. The striking feature is the co-existence of incipient phthisis with good, or even excellent, physique. This confirms the general contention that no violent exercises should be practised without preliminary and periodic medical examination.

Case VII.—Female, thirteen years eight months. *Phthisis.* House, three rooms. Mental capacity good; attendance good; pale; medium in health appearance; medium in nutrition; alert. Weight, 89·5 lbs. Incipient phthisis of right apex. Exercise—free gymnastics, one hour weekly, usual outdoor games. This case should be under treatment.

In the school where it occurred, Case VII. was the solitary case of phthisis. It may be suggested that one factor to account for the small amount of phthisis in this school of very poor, underfed, and badly-housed children, is the early death of feeble infants in this quarter of the city.

Case VIII.—Female, aged six years six months. *Phthisis and Pulmonary Stenosis.* Already described as Case XXI. in Heart series.

Case IX.—Female, nine years, seven months. *Phthisis.* Mental capacity excellent; attendance good; ruddy; medium in health appearance; medium in nutrition; extremely bright and alert. Weight, 56 lbs. Slight deafness of one ear. Right apex distinctly consolidated. Exercise—drill, half-hour per fortnight; swimming, skipping, walking, and other outdoor exercises. This child, if continued at school, may at any time grow rapidly worse. Under treatment she may recover.

Case X.—Male, six years, four months. *Phthisis.* Mental capacity excellent; attendance good; complexion pale; health appearance medium; in nutrition stout; very alert. Weight, 43 lbs. Eyes slightly myopic. Exercise—drill, dumb-bells, two half-hours weekly, football, outdoor games. The right apex has distinct signs of incipient phthisis. This child should have been under treatment.

Case XI.—Male, six years, ten months. *Phthisis.* House, three rooms. Mental capacity medium; attendance bad, owing to father's holidays; pale; health appearance medium; thin; moderately alert. Weight, 50 lbs. Tonsils enlarged. Adenoids. Eyes slightly hypermetropic and astigmatic blepharitis. Exercise—dumb-bell drill, twice weekly, usual games. This boy should be under treatment for incipient phthisis.

Case XII.—Male, seven years, four months. *Phthisis.* Mental capacity excellent, attendance good; complexion medium; health appearance medium; in nutrition medium; alert. Weight, 50·5 lbs. Slightly hypermetropic. Cicatrices of suppurating glands in neck, recent. Phthisis of right apex. Exercise—as in Cases X. and XI. This child should be under medical treatment. He might become a source of infection to other children.

Case XIII.—Male, nine years, two months. *Phthisis*, left apex. *Pneumonia.* Temperature, 102° Fahr. Mental capacity medium. Attendance perfect; pale; bad health appearance; thin; moderately alert. Weight, 50 lbs. Slightly deaf. Adenoids. Distinct phthisis of left apex. Pneumonia developing. This child is quite unfit to be at school. Slow in action. Exercises—marching and free exercises, half an hour a week.

Case XIV.—Male, eleven years, seven months. *Phthisis.* Mental capacity good; attendance good; complexion medium; health appearance medium; thin; alert. Weight, 76 lbs. Exercise—drill, half-hour per fortnight; football. Phthisis established in right apex. This child should be under treatment and not at school.

In one school six extra cases were examined, all boys. These are not reckoned in the tables. Among them was found one boy, aged thirteen years, three months, with incipient phthisis of the right apex. He had had rheumatic fever two months previously. He was pigeon-chested. He was good in capacity, regular in attendance, medium in complexion and healthiness of aspect, stout. Weight, 104 lbs. Exercise—no gymnastics, but physical drill and swimming. This boy was over the height and weight appropriate to his age. He ought to be, and probably was, under medical supervision.

(*B*) *Bronchitis.*—Case I.—Male, six years and four months. *Bronchitis.* House, three rooms. This boy was excellent in capacity; medium in attendance; irregularity due to illness; pale; unhealthy in appearance; thin; very alert; good carriage. Weight, 44 lbs. Slight enlargement of tonsils. This boy was unfit to be at school.

Case II.—Male, eleven years and seven months. *Chronic bronchitis.* Mental capacity good; attendance perfect; medium in complexion; healthy in appearance; stout; alert. Enlarged tonsils. Nebulae on cornea. Weight, 74 lbs. Usual playground games. Ought to be under medical supervision. The boy seemed adapted to his chronic trouble; but will be handicapped for life.

These two cases were at one school.

Case III.—Female, seven years and seven months. *Bronchitis.* House, two rooms. Very dull child. Attendance good. Pale; unhealthy in appearance; thin; weight, 35 lbs. Slightly deaf. Body not clean.

App. IX.

Special note.—'Very dull, underfed, poor hair.' Exercise—drill, one hour weekly, running, skipping, marching. This child was quite unfit to be attending school.

Case IV.—Male, eleven years. *Bronchitis.* Mental capacity good; attendance medium; moderately alert; slightly deaf; tonsils enlarged; adenoids. *Special note.*—'Very depressed.' Bronchitis well-marked. Exercise—drill, half-hour per fortnight; usual school games. This child, at the time of examination, was quite unfit to be at school.

7. *Ears, Nose and Throat, Eyes and Eyelids.*—These are commented on in connection with the appropriate tables.

8. *Deformities.*—The small number of deformities found was at once surprising and gratifying. The patients were all boys. Eye deformities, *e.g.*, squint, are included in the Eye Table.

There was one case of bifid, or split uvula, but the defect did not amount to cleft palate and was not recorded as a deformity. There was one case that showed a complete, or almost complete, double set of teeth both above and below. There was no case of club-foot, only two cases of flat-foot, not aggravated, and only four cases of slight knock-knee. There were a few cases of bow-legs due to rickets. No case of hernia was discovered, although a very stringent examination was made of 100 girls and 200 boys, and a general examination in the others. One or two cases of very slight exomphalos (umbilical protrusion), not amounting to hernia, were found in boys.

9. *General.*—The total number of children showing some form of disease is very large, amounting to 70 per cent. of the whole. In mitigation of the conclusions that might be drawn from this enormous percentage, it has to be said that many of the diseases recorded are slight; they are of value rather as indicating the road to prevention of unhealthiness than as themselves constituting a serious disablement or interference with school work. Of this order are many of the enlarged glands, enlarged tonsils, and adenoids. The same is true, but in a less degree, of the recorded ear diseases. These, even when slight, do interfere to a greater extent with school efficiency. The seriousness of heart and lung diseases, both for school efficiency and ultimately for social efficiency, needs no enforcement. If we assume, as we are entitled to do, that the selection of children was representative of the School Board children of Edinburgh, it follows that if the same rate of disease-incidence be applied as in the 600 examined, there exists at present among the 30,000 school children some 700 cases of incipient or developed phthisis, and some 1300 cases of more or less serious heart disease. By the same reasoning, some 50 per cent.—that is the great total of 15,000 children—would be found to show some slight affection of the throat, and some 40 per cent., or 12,000, some slight affection of the ear. Even if we assume that half the diseases found were such as not themselves to interfere with school efficiency—and this is much too large an assumption, since any affection of ear, or throat, or heart, or lung, tends to interfere with efficiency all through the daily life—we should still have some 35 per cent., that is 10,500 children, with some affection demanding more or less attention.

App. IX.

Summary of Conclusions.

On the basis of these facts and inferences, I have framed the following general conclusions:—

First.—The large number of serious and minor diseases directly and indirectly affecting physical efficiency and mental efficiency constitutes an overwhelming case for a medical inspection of school children.

Second.—The facts as to physical exercise at the various schools demonstrate that a primary condition of any good result from increased physical training is adequate food and adequate clothing.

Third.—No systematic exercise ought to be practised or enforced without a preliminary medical examination of the vital organs, to ensure that irreparable damage shall not result.

Fourth.—That exercises should be organised—not as at present according to the Code Standard in which the child is studying, but—strictly in accordance with health, physical development and vigour.

(Signed) W. LESLIE MACKENZIE.

Edinburgh,

C.—REPORT on the Physical Examination of 600 ABERDEEN School Children,

By Professor MATTHEW HAY.

Schools Visited.

(*See* Table I.)

The names of the schools are given in the above Table. They were selected by a Committee of the School Board, after receiving an explanation of the required conditions, and consisted of four elementary and two advanced schools. The latter were included mainly to obtain the necessary number of children at the higher ages. The Middle School is in a very poor and crowded district in the centre of the city, and is attended mainly by the children of the poorer of the working classes. Skene Square School is situated on the margin of a somewhat similar, but less crowded, district, from which its pupils are largely drawn. King Street School is also in a part of the city chiefly occupied by the working classes, but of the average type, and largely artisan. The immediately surrounding district is not overcrowded or slummy. Ashley Road School is in the west end of the city, and is attended almost wholly by children of the well-to-do classes. These were the four elementary schools visited, from which all the younger children were taken. Of the two advanced schools visited—the Grammar and the Central—the former is the chief secondary school for boys under the School Board, and is attended chiefly by boys of the better classes, including some boys from the country, while the latter is a higher grade school in the centre of the city for both boys and girls, but mainly girls, who are drawn principally from the middle classes and better-off working classes in the city.

Table I. also gives the size in rooms of the houses from which the examined children came, and shows that the children are divisible into three nearly equal groups, according to the size of house, viz.—one group from one- and two-roomed houses, a second from three-roomed houses, and the third from houses of four or more rooms. In Aberdeen, according to the last census, the proportion of the population occupying one- and two-roomed houses was 39 per cent.; three-roomed houses, 30 per cent.; and houses of four or more rooms, 31 per cent. Accordingly, the housing of the children examined corresponded approximately in character with the housing of the population generally.

Mode of Selecting the Children.

I regret that the School Board considered it necessary for me to obtain the consent of the parents of each child before examination, as it interfered to some extent with the purely random choice of the children which had been intended. The procedure, as approved by the Board, was, in the first place, to make a chance selection of the required number of children at the desired ages, either by ballot or by taking, say, every fourth or fifth child on the class register. An addition of 15 to 20 per cent. was made to the number, to cover possible refusals. A circular, approved by the Board, was then addressed to the parents of each selected child, asking them to inform the headmaster if they objected to the proposed examination. The proportion of refusals averaged not less than 15 to 20 per cent. over all the schools visited. The reasons for refusal were not usually stated. In one or two schools an impression had got abroad that the examination would involve considerable undressing, and this was objected to, especially by the parents of the older girls. It is not, however, believed that these refusals have seriously interfered with the fairness of the sampling. The fact of previous consent being required has diminished somewhat the proportion of children who were irregular in attendance, as these were most likely to be absent in largest proportion on the day of examination.

Physical Training in the Schools Visited.

Each of the schools visited, except the Central, is provided with a gymnasium, and in all the schools, except the Central, the accompanying 'syllabus of 'physical education' on a system arranged by Colonel Cruden, of Aberdeen, and approved by the School Board, is in operation, and every pupil receives half-an-hour of such education weekly. An additional half-hour of advanced exercises is obtainable by the older boys on payment of a fee. The older boys in the Grammar School are not obliged to undergo physical training under the syllabus. There is no physical training in the Central School in the meantime, but all the pupils are senior, and have been drafted from elementary schools, where they have had the usual physical exercises. The half-hour's training under the syllabus varies with the age of the pupil, and begins with free exercises, marching, and musical exercises, with dumb-bells and hoop-drill for the younger pupils, and ends with exercises with bar-bells and Indian clubs, and also military dumb-bell exercises, for pupils of the *Merit* and *Sub-Merit Classes*. Out-door drill is also given in summer to pupils of these classes.

The playground games are of the usual type. In the playgrounds of all the schools, except the Grammar School, where the grounds are extensive, cricket and football are forbidden on account of the smallness of the grounds. A large majority of the Grammar School boys engage freely in cricket and football. There are few grounds for such games in the city available for boys attending other schools, but a proportion of the older boys are connected with boys' clubs.

There is no swimming pond in connection with any of the schools visited, but about a year ago arrangements were made under which pupils at the Grammar School have the opportunity of practising swimming in the pond at the Beach Sea-Bathing Station.

Mental Capacity, Class Place, and Regularity of Attendance.

(*See* Table II.)

It will be observed that somewhat more than one-fourth of the children examined belonged to the top fourth of their class, while considerably under one-fourth of the children were drawn from the bottom

TABLE I.—Showing Schools Visited and Numbers and Ages of Children Examined.

(Corresponds with Edinburgh, Table I.)

ABERDEEN.

Name of School.	Date of Erection.	Mode of Ventilation.*	Mode of Heating.	No. of Pupils.	Cubic Space per Pupil †	Area of Playground per Pupil.	Physical Training.	Sex.	Number of Pupils examined.				Number of Pupils from different-sized Houses.				
									Above 6 years and under 9.	9 years and under 12.	12 years and under 15.	Total.	1 Room.	2 Rooms.	3 Rooms.	4 Rooms.	5 Rooms and upwards.
King Street (Elementary)	1884 several additions	Mechanical (propulsive fans) and natural	Hot Water Pipes (High Pressure)	1811	cub. ft. 227·48	sq. yds. 2·44	Yes	M.	30	26	18	74	...	18	38	13	5
								F.	30	26	19	75	...	18	36	9	12
Middle (Elementary)	Reconstructed 1891	Mechanical (propulsive fans) and natural	Hot Water Pipes (High Pressure)	1147	222·07	1·59	Yes	M.	21	22	11	54	6	24	17	5	2
								F.	30	25	15	70	7	37	16	9	1
Skene Square (Elementary)	Reconstructed 1892	Mechanical (propulsive fans) and natural	Hot Water Pipes (High Pressure)	1564	212·95	1·08	Yes	M.	31	26	20	77	4	33	29	7	4
								F.	28	25	15	68	4	27	27	7	3
Ashley Road (Elementary)	1888	Mechanical (propulsive fans) and natural	Hot Water Pipes (High Pressure)	1142	282·60	4·27	Yes	M.	17	21	7	45	1	3	3	7	31
								F.	13	24	11	48	...	...	7	6	35
Grammar (Secondary—Males)	1863	Natural	Hot Water Pipes (High Pressure)	421	807·50	50·59	Yes	M.	...	5	45	50	...	...	5	8	37
								F.	...	...	...	...	...	...	...	...	...
Central (Secondary—Males and Females)	1840 last addition 1894	Natural	Coal Stoves	593	240·02	3·26	No	M.	...	...	...	...	...	...	...	...	...
								F.	...	...	39	39	...	1	10	12	16
							Totals . . .	M.	99	100	101	300	11	78	92	40	79
								F.	101	100	99	300	11	83	96	43	67
								Both Sexes	200	200	200	600	22	161	188	83	146
								Percentages . .					3·7	26·8	31·3	13·8	24·3

* Natural ventilation as used here means that the windows open, and can be used when mechanical ventilation fails, or in summer.

† Includes whole space in schools, except corridors.

TABLE II.—Mental Capacity, School Attendance, etc.

(Corresponds with Edinburgh, Table II.)

ABERDEEN.

Age — Years.	Sex.	No. examined.	Position in Class during preceding Term.				Teacher's Opinion of Mental Capacity.					Regularity of Attendance.		
												Absences.		
			Top Fourth.	Second Fourth.	Third Fourth.	Last Fourth.	Excellent.	Good.	Medium.	Dull.	Defective.	Under 8%.	Under 16%.	Above 16%.
Above 6 and under 9	M.	99	33	20	29	17	11	45	27	16	0	90	8	1
	F.	101	37	30	23	11	21	44	30	6	0	91	9	1
Above 9 and under 12	M.	100	33	27	26	14	11	48	35	6	0	90	7	3
	F.	100	34	30	18	18	9	50	28	13	0	83	12	5
Above 12 and under 15	M.	101	29	31	14	27	16	40	37	8	0	85	13	3
	F.	99	26	28	35	10	5	56	34	4	0	87	9	3
Totals	M.	300	95	78	69	58	38	133	99	30	0	265	28	7
	F.	300	97	88	76	39	35	150	92	23	0	261	30	9
	Both Sexes	600	192	166	145	97	73	283	191	53	0	526	58	16
Percentages . . .			32·0	27·7	24·2	16·2	12·2	47·2	31·8	8·8	0	87·7	9·7	2·7

TABLE III.—Personal Appearance, Cleanliness, etc.

(*Corresponds with Edinburgh, Table III.*)

ABERDEEN.

Age. — Years.	Sex.	Number examined.	Complexion.			Health Appearance.			State of Nutrition.			Brightness and Alertness.			Carriage and General Balance.			Cleanliness.					
																		Clothing.			Body.		
			Ruddy.	Medium.	Pale.	Good.	Medium.	Bad.	Stout.	Medium.	Thin.	Good.	Medium.	Bad.	Good.	Medium.	Bad.	Good.	Medium.	Bad.	Good.	Medium.	Bad.
Above 6 and under 9	M.	99	20	68	11	77	22	...	25	67	7	56	42	1	73	26	...	69	29	1	57	41	1
	F.	101	20	69	12	79	21	1	23	73	5	73	28	...	89	12	...	73	26	2	67	32	2
Above 9 and under 12	M.	100	21	67	12	72	28	...	16	72	12	75	25	...	81	19	...	76	22	2	72	22	6
	F.	100	22	62	16	77	23	...	22	67	11	69	31	...	88	12	...	84	16	...	81	17	2
Above 12 and under 15	M.	101	25	62	14	76	23	2	13	77	11	86	15	...	86	15	...	86	15	...	91	7	3
	F.	99	18	61	20	76	23	...	27	64	8	76	23	...	88	11	...	91	8	...	92	6	1
Totals	M.	300	66	197	37	225	73	2	54	216	30	217	82	1	240	60	...	231	66	3	220	70	10
	F.	300	60	192	48	232	67	1	72	204	24	218	82	...	265	35	...	248	50	2	240	55	5
	Both sexes	600	126	389	85	457	140	3	126	420	54	435	164	1	505	95	...	479	116	5	460	125	15
Percentages . .			21·0	64·8	14·2	76·2	23·3	0·5	21·0	70·0	9·0	72·5	27·3	0·2	84·2	15·8	...	79·8	19·3	0·8	76·7	20·8	2·5

fourth. The mode of selecting the children was probably, as already explained, in some measure responsible for this. The children examined in Aberdeen were, therefore, as a whole, somewhat above the average in class place, and this was true more especially of the girls.

In respect of mental capacity, 59 per cent. were marked as being 'excellent' or 'good,' while only 9 per cent. were entered as 'dull.' None were marked as 'defective.'

The 'dull' children belonged equally to the various social grades, and were not under the average in respect of health appearance, regularity of attendance, and cleanliness. Nor did their average measurements, which were separately made up, differ materially from the averages for other children of the same ages. They suffered, however, in distinctly larger proportion from eye and ear defects.

Personal Appearance.

(*See* Table III.)

In point of health appearance, state of nutrition, and carriage and general balance, and also cleanliness, the girls were somewhat superior to the boys, while the reverse was the case in respect of complexion. In brightness and alertness the two sexes were almost alike.

At all ages and for both sexes taken together it was found that 14 per cent. were of 'pale' complexion; less than 1 per cent. had a 'bad' health appearance; 9 per cent. were 'thin'; only one child was marked 'bad' in regard to brightness and alertness, and none in respect of carriage and general balance.

In less than 1 per cent. was the cleanliness of the clothing noted as 'bad,' and in only 2·5 per cent. in the case of the body. The previous notice of the examination which the parents received through the circular asking their sanction did, no doubt, help to improve the cleanliness, although the circular contained no information as to the actual day of the examination. The defective cleanliness was largely confined to the children in the Middle School; but this school, as already remarked, is attended by children from the most crowded and poorest district in the city. At the same time it is of interest to note that the children from this school were among the brightest and most alert.

It will be observed that the proportion of pale children increased with age, from about 11 per cent. at six to nine years, to 17 per cent. from twelve to fifteen years, and that the increase was much greater among girls than boys. The proportion of ruddy children was not, however, materially affected, the increment of the pale children having been drawn mainly from the 'mediums.' Possibly the confinement of school life is accountable, to some extent, for the increase of paleness.

It is satisfactory, however, to note that the health appearance, as distinguished from mere complexion, was scarcely affected by increase of age.

As regards state of nutrition, it was, on the whole, very satisfactory. Only 9 per cent. of the children were marked as 'thin,' and in no instance was there evidence of distinctly insufficient feeding. The state of nutrition, as judged by plumpness, diminished in boys as the age increased. In girls, after a slight falling-off at the middle age-group, it reached its maximum in the latest age-group.

It is of interest to remark that practically all the children examined were found to be sufficiently clothed. In some cases the clothing was poor in character, and occasionally dirty, but it was scarcely ever insufficient in quantity. Only two or three of the children were without boots or shoes. The clothing of the poorest children in the town is well attended to by certain clothing missions.

Carriage and general balance, as judged by a natural standard, was generally good, being marked by the examiners as 'good' in 84 per cent. of the children. It was somewhat better in girls than boys at every age-group, but the difference, which was greatest at the earliest age-group, gradually diminished with increasing age. This was due, as the table shows, to an improvement in the boys rather than to a declension in the girls, and may have proceeded from a greater devotion to outdoor games. I am satisfied that although the carriage was largely marked as good, according to the standard used, it was capable of improvement under a sufficiency of suitable physical exercise and drill. This opinion is based less on the inspection of the individual child in the stimulating atmosphere of the examination room than on the general observation of the children in the playground and the streets.

Teeth.

(*See* Table IV.)

The cleanliness of the teeth was not satisfactory, only one-third of the children being marked as good in this respect. Not more than 12 per cent. brushed their teeth daily, and these belonged almost entirely to the better classes of the population. The attention to brushing increased only slightly with increasing age, and was somewhat greater among girls than among boys.

Only 3 per cent. showed distinctly irregular teeth, and only 5 per cent. had ill-shaped teeth. In one of these the teeth had the shape characteristic of congenital syphilis, and the same child suffered from choroido-retinitis of the eyes.

The development of the permanent teeth was delayed in nearly one-fifth of the children, and distinctly more largely in boys than girls, and the delay was more frequent at the later than the earlier ages.

The number of the permanent teeth in each child was counted, and the average for each yearly age and each sex is given in a separate table. The averages agree with the usual statements in works on anatomy, except that after the age of eight years the development in the Aberdeen children was half a year to fully one year behind.

Decay of the permanent teeth was present in fully one-third of the children of the lowest age-group (six to nine years), and had apparently begun in most of these almost with the first appearance of the permanent teeth. The last year (eight to nine) of this age-group witnessed a larger addition to the children with decayed teeth than any subsequent year. By the age of ten or eleven the proportion of children with decayed teeth had risen to nearly four-fifths; but it did not show a material increase at the later ages. The proneness to decay of teeth was, therefore, of early origin. Decay of the permanent teeth was usually associated with decay of the first set. Probably the early removal of decayed teeth among the first set would assist greatly in preventing decay of the second set.

The average number of decaying permanent teeth per child was a little over two in the first age-group, and increased to about 3½ in the highest age-group. The greater part of the increase in the last group was due to a sudden rise in the last year (fourteen to fifteen) of the group. The rise took place in both sexes.

Colour of Hair and Eyes

(*See* Table V.)

Very nearly one-half of the children had hair of a medium or chestnut-brown colour; one-fifth had black or dark brown hair; fully one-fourth had fair hair; and about one-thirtieth had red hair. The darker shades were more abundant at the older ages.

The eyes in about one-half of the children were blue; in slightly under one-fifth they were dark; in slightly over one-fourth they were medium; and in a little under one-tenth they were of a light colour, other than blue.

TABLE IV.—Teeth.

(Corresponds with Edinburgh, Table VI.)

ABERDEEN.

Age. — Years.	Sex.	No. examined.	Cleanliness of Teeth.			No. of Children brushing Teeth daily.	No. of Children with delayed development of Teeth.*	Regularity of Teeth. — No. of Children.			Shape of Teeth. — No. of Children.			Decaying Teeth.				Teeth lost of Second Set. — Average No. per Child.
														First Set. (Milk Teeth.)		Second Set. (Permanent Teeth.)		
			Good.	Medium.	Bad.			Regular.	Medium.	Irregular.	Good.	Medium.	Bad.	No. of Children.	Average No. of Decaying Teeth in each Child with such Teeth.	No. of Children.	Average No. of Decaying Teeth in each Child with such Teeth	
Above 6 and under 9	M.	99	27	46	26	2	9	94	3	2	78	16	5	96	4·7	39	2·3	0·01
	F.	101	41	41	19	7	9	85	15	1	75	22	4	99	5·0	33	2·1	0·0
Above 9 and under 12	M.	100	31	38	31	11	25	81	13	6	81	12	7	69	2·8	80	2·6	0·1
	F.	100	32	46	22	18	17	89	9	2	85	12	3	74	2·9	74	2·8	0·1
Above 12 and under 15	M.	101	28	42	31	19	36	80	18	3	84	12	5	20	2·1	80	3·7	0·2
	F.	99	36	44	19	18	16	81	12	6	87	8	4	23	1·8	82	3·6	0·4
Totals	M.	300	86	126	88	32	70	255	34	11	243	40	17	185	...	199	...	0·1
	F.	300	109	131	60	43	42	255	36	9	247	42	11	196	...	189	...	0·2
	Both Sexes.	600	195	257	148	75	112	510	70	20	490	82	28	381	...	388	...	0·15
Percentages . .			32·5	42·8	24·7	12·5	18·7	85·0	11·7	3·3	81·7	15·3	4·7	63	...	65	...	...

* Development delayed by more than one year from the average.

Average No. of Permanent Teeth per Child at each year of Age.

Age.	Sex.	Above 6 and under 7.	Under 8.	Under 9.	Under 10.	Under 11.	Under 12.	Under 13.	Under 14.	Under 15.
No. of Children	M.	32	33	34	33	34	33	35	34	32
	F.	34	34	33	34	33	33	33	34	32
Average No. of Teeth per Child	M.	4·2	8·0	10·3	13·6	15·8	20·0	23·3	24·8	27·0
	F.	5·0	8·0	10·0	14·0	16·4	20·0	24·1	26·6	27·8
	Both Sexes	4·6	8·0	10·1	13·8	16·0	20·0	23·7	25·7	27·4

TABLE V.—Colour of Hair and Eyes.

(Corresponds with Edinburgh, Table VII.)

ABERDEEN.

Age. — Years.	Sex.	Number examined.	Colour of Hair.				Colour of Eyes.			
			Black and Dark Brown.	Medium or Chestnut Brown.	Fair.	Red.	Dark.	Medium.	Light.	
									All Blues.	Others.
Above 6 and under 9	M.	99	9	54	34	2	17	37	37	8
	F.	101	12	55	32	2	20	17	58	6
Above 9 and under 12	M.	100	16	48	33	3	16	16	58	10
	F.	100	24	46	24	6	16	21	58	5
Above 12 and under 15	M.	101	25	56	15	5	20	32	36	13
	F.	99	33	35	27	4	21	26	45	7
Totals	M.	300	50	158	82	10	53	85	131	31
	F.	300	69	136	83	12	57	64	161	18
	Both sexes	600	119	294	165	22	110	149	292	49
Percentages . .			19·8	49·0	27·5	3·7	18·3	24·8	48·7	8·2

Eyesight.

(*See* Table VI.)

The proportion of children requiring correction by spectacles for errors of refraction was slightly under one-fourth of the whole of the children examined. In only a few of these had such correction been made, and several of the children were evidently suffering from want of it. The headmaster's attention was drawn to all such cases, with a view to the parents being communicated with. There is obvious need for a regular systematic examination of the eyes of the school children, if the best possible work is to be obtained. The proportion of children with vision requiring correction was slightly higher among girls than boys.

Diseases of the eye were not common; only 3 to 4 per cent. of the children had affections of the eye, but in several cases the affection was merely a slight and temporary inflammation. A few cases, severe enough to require medical treatment, were evidently not receiving it. Inflammation of the eyelids (blepharitis) was met with in 6 per cent. of the children, and in several instances was in need of treatment.

Nearly all the cases of eye and eyelid disease met with were remediable.

Ears and Hearing.

(*See* Table VII.)

The results as regards hearing were good, only five children having 'distinctly defective' hearing, such as would interfere with the proper progress of their school work. In no case was there complete deafness. The proportion of children with 'defective' as distinguished from 'distinctly defective' hearing was 13 per cent., and the cases were irregularly distributed over the age-periods. There was a preponderance of the cases among girls

The defective hearing was in many instances remediable, or capable of improvement, under suitable medical treatment. Some of the severest cases, such as those of otitis media (inflammation of the middle ear), were receiving no treatment; others were apparently being properly attended to. The attention of the teachers was directed to the cases which were in particular need of medical assistance.

The children marked as suffering from cerumen or wax in the ears include only such children as had sufficient cerumen to produce impaction or interfere with hearing.

Nose and Throat.

(*See* Table VIII.)

One-fourth to one-third of all the children examined were suffering from some affection of the throat or nose, but it was in the majority of cases very slight, and scarcely requiring medical treatment. About one-fifth to one-fourth of the children suffering from enlarged tonsils or adenoids—that is, about one in twenty of all the children examined—would probably have benefited by surgical treatment. The affections of the throat were more numerous in the older than in the younger children, but the increase was slight and immaterial. More girls than boys were affected, and the disparity was more evident at the later than the earlier ages. The few unclassified cases of disease were suffering from inflammation of the nose, follicular tonsillitis, inflammation of the throat, or wart on tongue.

Only three children were found to have a defective sense of smell, and in each case the sense was not completely lost. All three were suffering from catarrh.

TABLE VI.—EYES.

(*Corresponds with Edinburgh, Table VIII.*)

ABERDEEN.

Age-group of children. — Years.	Sex.	No. examined.	Acuteness of Distance Vision. Scale number of smallest Snellen's type read at 6 metres					Refraction of Eyes.						Percentage with Vision requiring Correction.	No. of Cases of Squint.	Diseases.				
																Eyes.			Eyelids.	
			5	6	10	15	20+	Emmetropia.	Hypermetropia.	Myopia.	Astigmatism.					Conjunctivitis.	Corneal Nebulæ.	Others.†	Blepharitis.	Others.*
			Normal.		Defective.						Hypermetropic.	Mixed.	Myopic.							
Above 6 and under 9	M	99	42	42	8	3	4	32	50	...	13	4	...	21·2	2	...	...	...	6	...
	F	101	27	39	17	8	10	37	33	1	22	8	...	30·8	4	2	...	...	10	...
Above 9 and under 12	M	100	66	18	9	2	5	41	44	2	12	1	...	21·0	2	1	1	2	5	...
	F.	100	47	37	9	5	2	39	43	4	10	3	1	21·0	2	2	...	...	1	1
Above 12 and under 15	M	101	75	13	6	4	3	54	28	3	13	2	1	23·8	3	4	...	2	7	...
	F	99	57	26	8	2	6	60	21	6	12	...	...	25·2	2	5	2	...	5	2
Totals	M	300	183	73	23	9	12	127	122	5	38	7	1	22·0	7	5	1	4	18	...
	F	300	131	102	34	15	18	136	97	11	44	11	1	25·7	8	9	2	...	16	3
	Both Sexes	600	314	175	57	24	30	263	219	16	82	18	2	23·9	15	14	3	4	34	3
Percentages . .			52·3	29·2	9·5	4·0	5·0	43·8	36·5	2·7	13·7	3·0	0·3	23·9	2·5	2·3	0·5	0·7	5·7	0·5

* Consisted of granular lids, 1 case; dermoid cyst, 1; wart 1.

† Consisted of Fuchs' coloboma, 2; choroido-retinitis, 1; nystagmus, 1.

TABLE VII.—Ears.

(Corresponds with Edinburgh, Table IX.)

ABERDEEN.

Age-group of Children. — Years.	Sex.	No. examined.	Keenness of Hearing. Distance at which watch heard.			No. Defective.	Percentage with Defective Hearing.	Causes.								
								Ears.*					Throat.†			
			Normal (8 ft. and upwards).	Defective (4 ft. and under 8 ft.)	Distinctly Defective (under 4 ft.).			Otitis Media and Perforation.	Eustachian Obstruction.	Retracted Membrana Tympani.	Chronic Catarrh of Tympanum.	Cerumen.	Enlarged Tonsils only.	Enlarged Tonsils and Adenoids.	Adenoids only.	Granular Pharyngitis.
Above 6 and under 9	M	99	87	12	...	12	12·1	2	1	4	...	2	2	2	1	...
	F	101	84	17	...	17	16·8	5	2	2	3	1	2	2	2	1
Above 9 and under 12	M	100	89	9	2	11	11·0	3	...	...	4	2	1	1	...	...
	F	100	87	13	...	13	13·0	6	1	2	...	2	4	...	1	...
Above 12 and under 15	M	101	91	9	1	10	9·8	3	...	...	1	1	6	1	1	1
	F	99	79	18	2	20	20·2	1	...	1	1	4	3	6	6	2
Totals	M	300	267	30	3	33	11·0	8	1	4	5	5	9	4	2	1
	F	300	250	48	2	50	16·7	12	3	5	4	7	9	8	9	3
	Both Sexes	600	517	78	5	83	13·8	20	4	9	9	12	18	12	11	4
Percentages . .			86·2	13·0	0·8	...	13·8	3·3	0·7	1·5	1·5	2·0	3·0	2·0	1·8	0·7

* Includes all cases of ear disease.

† Includes only such cases of throat disease as co-existed with defective hearing.

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TABLE VIII.—Nose and Throat.

(*Corresponds with Edinburgh, Table X.*)

ABERDEEN.

Age-group of Children. — Years.	Sex.	No. examined.	Enlarged Tonsils only.	Enlarged Tonsils and Adenoids.	Adenoids only.	Granular Pharyngitis.*	Unclassified.	Smell. Defective.
Above 6 and under 9	M.	99	15	1	4	6	4	1
	F.	101	14	3	3	8	...	...
Under 12	M.	100	10	2	1	8	3	1
	F.	100	14	1	3	7	1	...
Under 15	M.	101	15	5	1	7	...	...
	F.	99	19	6	8	5	4	1
Totals	M.	300	40	8	6	21	7	2
	F.	300	47	10	14	20	5	1
	Both Sexes	600	87	18	20	41	12	3†
Percentages . . .			14·5	3·0	3·7	6·8	2·0	0·5

* Does not include cases where adenoids present.
† All 3 children were suffering from catarrh.

Diseases and Deformities.

(*See* Table IX.)

The following is a list of the cases of disease met with among the children examined:—

Diseases of Skin.—In males—Eczema, 12; impetigo, 2; scabies, 1; tinea (ringworm), 2; psoriasis, 2; ichthyosis, 2; urticaria, 1; pediculi capitis, 1. *In females*—Eczema, 3; impetigo, 1; tinea, 1; pediculi capitis, 5: pediculi corporis, 1. The diseases of the skin were chiefly among the younger children, and were most frequent among the poorest children.

Diseases of Glands.—In males—Enlarged glands, 10 (including 3 discharging glands). *In females*—Enlarged glands, 2. The glands found to be diseased were all cervical. Every case of obvious enlargement was noted.

Diseases of Bones.—In males—Rickets, 12; tubercular disease (tibia), 1. *In females*—Rickets, 5.

Such of the cases of rickets as were associated with deformity are again included under 'Deformities.' They amounted to seven. In the cases of rickets the following were the bones which more particularly indicated the existence of the disease:—Ribs, in 3 cases; tibia (curvature), 2; thigh bones (anterior curvature), 1; head, 1; head and chest, 4; general, 1.

Diseases of Joints.—In males, 0. *In females*—Rheumatism, 1.

Diseases of Heart and Circulation.—In males, 6 (all with mitral incompetence); *in females*, 0. The cases were equally distributed over the ages. There was also a case of high arterial tension.

Diseases of Lungs.—In males—Bronchitis, 5. *In females*—Bronchitis, 3; consolidated apex, 3. The cases of consolidated apex were probably cases of incipient phthisis. They were not, so far as could be ascertained, receiving medical attention.

Diseases of Abdominal Organs.—In males—Inguinal hernia, 3 (including one double, which had been cured by operation); umbilical hernia, 2; pot belly, 1. *In females*, 0.

Diseases of Eyes and Eyelids,
Diseases of Ears,
Diseases of Nose and Throat, } See special tables.

Other Diseases.—In males—Stammering, 2. *In females*, 0.

The deformities were few—only 21—and were, in most cases, not of a serious character. They are detailed in the accompanying Table. It is possible, or even probable, that the method of selecting the children, with the power of refusal to the parents, prevented a proper proportion of the deformed children appearing among those examined; but in any case, as could be seen from a general survey of the children in the classroom or playground, the proportion of deformed children was small.

No case of club-foot was found among the children examined, and only two cases of flat-foot. No child was marked as having the latter deformity unless it was such as appeared to require medical attention. It may be remarked that the typical Aberdeen foot is, in the experience of the reporter, much flatter than the foot of southern populations.

Among the deformities noted were three pigeon-shaped chests in males, and two in females.

The kyphosis (hunchback) noted was in the same boy as suffered from bifurcated uvula.

Measurements.

(*See* Tables X. and XI.)

As the numbers examined at the different ages were small—only thirty-two to thirty-four at each year of age for each sex—the average measurements would probably undergo some modification if they were derived from larger numbers, but the numbers are probably sufficient to afford ground for broad generalisations.

Height (standing).—The boys were about two cms. or ½ inch taller than the girls at the earlier ages; but the girls were taller than the boys at the ages of thirteen to fourteen and fourteen to fifteen. In other words, during the school-age period girls grow more than boys. This is in accordance with the findings of previous observers (see especially the reports of the Anthropo-

TABLE IX.—Disease and Deformity.

(Corresponds with Edinburgh, Table XI.)

ABERDEEN.

Age. — Years.	Sex.	No. examined.	No. of Children suffering from Disease of—											Total No. of Children suffering from Disease. (*b*)	Number of Children suffering from Deformities.	
			Skin.	Glands.	Bones.	Joints.	Heart.	Lungs.	Abdominal Organs.	Eyes and Eyelids.	Ears.	Nose and Throat.	Other Diseases.		Congenital. (*c*)	Acquired. (*d*)
Above 6 and under 9	M.	99	9	2	8	...	2	5	2	6	9	30	...	50	2	4
	F.	101	6	2	2	...	...	1	...	12	13	29	...	53	1	2
Above 9 and under 12	M.	100	8	3	3	...	2	...	2	9	9	24	2(*a*)	43	2	3
	F.	100	5	...	1	...	...	4	...	5	11	26	...	40	...	1
Above 12 and under 15	M.	101	2	5	2	...	2	...	2	14	4	31	...	41	2	3
	F.	99	...	...	2	1	...	1	...	11	8	42	...	47	...	1
Totals	M.	300	19	10	13	...	6	5	6	29	22	85	2	134	6	10
	F.	300	11	2	5	1	...	6	...	28	32	97	...	140	1	4
	Both Sexes	600	30	12	18	1	6	11	6	57	54	182	2	274	7	14
Percentages . . .			5·0	2·0	3·0	0·2	1·0	1·8	1·0	9·5	9·0	30·3	0·3	45·7	1·2	2·3

(*a*) Stammering. (*b*) In the numbers in the preceding columns, a child suffering from more than one disease is counted under each disease; this column contains only the exact number of diseased children; (*c*) *Congenital Deformities* consisted of—Bifid uvula and kyphosis (hunchback), 1; malformation of auricle, 1; cryptorchids, 2; malformation of head, 3; (*d*) *Acquired Deformities* consisted of—flat-foot, 2; curvature of lower limbs, 4; rickets, 7; badly united fracture, 1.

TABLE X.—Measurements, for each Year of Age, and each Sex.

ABERDEEN. (*Has no corresponding Edinburgh Table.*)

Age. — Years.	Sex.	No. examined.	(a) Weight.	Height. (b) Standing.	Height. (c) Sitting.	Head. (d) Maximum Length.	Head. (e) Maximum Width.	Head. (f) Cephalic Index.	Head. (g) Min. Width of Forehead.	Head. (h) Height.	Head. (i) Maximum Circumference.	Neck. Minimum Circumference.	Trunk and Limbs. (j) Circumference of Chest.	Trunk and Limbs. (k) Width of Shoulders.	Trunk and Limbs. Width of Pelvic Crests.	Trunk and Limbs. (l) Width of Hips.	Trunk and Limbs. (m) Girth of Forearm.	Trunk and Limbs. (m) Girth of Wrist.	Trunk and Limbs. (n) Girth of Calf.	Trunk and Limbs. (n) Girth of Ankle.	Grasping Power. (o) Right Hand. (per square inch.)	Grasping Power. (o) Left Hand. (per square inch.)
			lbs.	ins.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	lbs.	lbs.
Above 6 and under 7	M.	32	46·9	44·3	112·8	62·5	17·6	13·9	79·0	10·0	12·2	51·4	25·2	54·7	24·7	19·2	20·1	16·1	11·3	21·9	14·6	6·8	6·8
	F.	34	45·4	43·7	111·0	62·4	17·3	13·8	79·8	9·8	11·6	50·6	23·7	52·8	24·3	19·0	19·9	15·6	11·6	22·0	14·5	5·2	5·4
Above 7 and under 8	M.	33	51·3	46·2	117·6	64·2	17·8	14·2	79·8	10·1	11·9	52·0	25·6	57·8	25·9	19·9	20·9	16·5	11·7	23·0	15·3	7·2	7·9
	F.	34	48·4	45·8	116·2	64·7	17·2	14·0	81·4	9·9	11·6	50·6	24·3	54·8	25·4	20·0	20·8	16·1	11·3	22·4	14·8	6·7	6·6
Above 8 and under 9	M.	34	54·9	47·3	120·1	66·7	17·9	14·1	78·8	10·1	12·1	52·1	25·9	58·9	27·5	20·7	21·8	17·1	12·0	23·5	15·8	8·6	8·6
	F.	33	50·0	46·5	118·1	64·3	17·4	14·0	80·5	9·7	11·7	50·3	24·6	55·1	25·6	19·6	21·1	16·5	11·6	22·8	15·1	7·1	7·4
Above 9 and under 10	M.	33	58·9	49·0	124·5	67·7	18·1	14·2	78·5	10·2	12·1	52·8	26·2	60·0	27·7	21·0	22·3	17·6	12·0	24·4	16·3	9·8	9·5
	F.	34	55·7	49·4	125·4	68·1	17·4	13·9	79·9	9·7	11·7	50·8	24·6	57·6	26·7	20·7	22·2	17·0	11·9	24·0	15·9	8·7	8·5
Above 10 and under 11	M.	34	62·8	51·1	129·4	70·3	18·0	14·2	78·9	10·2	12·2	52·5	26·7	61·7	28·6	21·8	23·0	18·0	12·4	25·1	16·7	11·3	11·2
	F.	33	61·4	50·5	128·3	69·9	17·5	14·0	80·0	9·9	11·7	51·1	25·1	58·5	27·9	21·2	22·9	17·6	12·4	24·9	16·6	9·1	9·3
Above 11 and under 12	M.	33	70·2	53·6	136·0	72·7	18·2	14·4	79·1	10·4	12·3	52·8	27·0	64·3	29·5	22·4	24·2	19·0	12·8	26·2	17·2	11·3	11·4
	F.	33	65·5	52·9	134·2	71·9	17·7	14·1	79·7	9·9	11·9	51·5	25·7	60·9	29·0	22·2	23·8	17·8	12·4	25·4	16·8	10·1	10·0
Above 12 and under 13	M.	35	77·3	55·8	141·6	75·5	18·3	14·6	79·8	10·6	12·5	53·3	27·6	66·2	30·6	23·4	24·7	19·8	13·6	26·6	17·8	12·3	12·4
	F.	33	72·7	54·9	139·3	74·1	17·9	14·1	78·8	10·2	12·0	52·3	26·4	62·1	29·9	23·0	24·7	18·6	13·1	26·9	17·9	10·2	10·3
Above 13 and under 14	M.	34	80·6	56·6	143·6	76·3	18·3	14·4	78·7	10·6	12·5	53·4	27·8	68·2	30·7	23·7	25·5	20·1	13·7	27·7	18·3	13·0	13·2
	F.	34	82·8	57·0	144·8	77·5	18·0	14·3	79·5	10·4	12·0	52·8	27·1	65·7	31·3	24·0	26·3	19·4	13·4	28·7	18·3	12·2	11·5
Above 14 and under 15	M.	32	95·7	59·9	152·0	79·5	18·6	14·6	78·6	10·9	12·7	54·2	28·5	70·8	32·5	24·8	27·0	21·1	14·2	30·2	19·3	14·5	14·5
	F.	32	94·5	60·4	153·4	81·2	18·2	14·3	78·6	11·0	12·2	53·0	27·8	70·0	32·7	26·4	28·7	20·7	14·1	29·8	19·2	13·3	13·1

(a) With usual indoor clothing, but without boots ; (b) without boots ; (c) vertex to buttocks, thighs closed and horizontal ; (d) glabella to occiput ; (e) above level of ears ; (f) $= \frac{(e) \times 100}{(d)}$; (g) between temporal ridges ; (h) from notch in tragus to vertex ; (i) level of glabella ; (j) immediately above nipples, and over scapulæ, arms hanging (see description in joint introductory part of report)—average of inspiration and expiration ; (k) between acromial tips ; (l) at great trochanters of thigh bones, feet close ; (m) arm extended horizontally, and fingers loosely flexed ; (n) standing ; (o) with mercurial manometer.

TABLE XI.—Measurements for three Age-groups and each Sex.

(*Corresponds with Edinburgh, Table IV.*)

ABERDEEN.

Age — Years.	Sex.	No. examined.	(a) Weight.	Height. (b) Standing.		(c) Sitting.	Head. (d) Maximum Length.	(e) Maximum Width.	(f) Cephalic Index.	(g) Min. Width of Forehead.	(h) Height.	(i) Maximum Circumference.	Neck. Minimum Circumference.	Trunk and Limbs. (j) Circumference of Chest.	(k) Width of Shoulders.	Width of Pelvic Crests.	(l) Width of Hips.	(m) Girth of Forearm.	(m) Girth of Wrist.	(n) Girth of Calf.	(n) Girth of Ankle.	Grasping Power. (o) Right Hand. (per square inch)	(o) Left Hand. (per square inch)
			lbs.	ins.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	cms.	lbs.	lbs.
Above 6 and under 9	M.	99	51·1	46·0	116·8	64·5	17·8	14·1	79·2	10·1	12·1	51·8	25·6	57·1	26·0	19·9	20·9	16·6	11·7	22·8	15·2	7·5	7·8
	F.	101	47·9	45·4	115·1	63·8	17·3	13·9	80·6	9·8	11·6	50·5	24·2	54·2	25·1	19·5	20·6	16·1	11·5	22·4	14·8	6·3	6·5
Above 9 and under 12	M.	100	64·0	51·2	130·0	70·2	18·1	14·3	78·8	10·3	12·2	52·7	26·6	62·0	28·6	21·7	23·2	18·2	12·4	25·2	16·8	10·8	10·7
	F.	100	60·9	50·9	129·3	70·0	17·5	14·0	79·9	9·8	11·8	51·1	25·1	59·0	27·9	21·4	23·0	17·5	12·2	24·8	16·4	9·3	9·3
Above 12 and under 15	M.	101	84·5	57·3	145·6	77·1	18·4	14·5	79·0	10·7	12·6	53·6	28·0	68·4	31·3	24·0	25·7	20·3	13·8	28·2	18·5	13·3	13·4
	F.	99	83·3	57·4	145·8	77·6	18·0	14·2	79·0	10·5	12·1	52·7	27·1	65·9	31·3	24·5	26·6	19·6	13·5	28·5	18·5	11·9	11·6

See footnotes to Table X.

TABLE XII.—Showing Number of Children with Measurements deviating more than 5 per cent from average of Measurements for each Year of Age.

ABERDEEN. (*Corresponds with Edinburgh, Table V.*)

Age. — Years	Sex.	No. examined.	Number with Measurements (for each Year of Age) exceeding	(a)	Height. (b)	Height. (c)	Head. (d)	Head. (e)	Head. (f)	Head. (g)	Head. (h)	Head. (i)	Neck.	Trunk and Limbs. (j)	Trunk and Limbs. (k)	Trunk and Limbs. (l)	Trunk and Limbs.	Trunk and Limbs. (m)	Trunk and Limbs. (n)	Trunk and Limbs. (o)	Trunk and Limbs. (p)	Grasping power of hands. (o)	Grasping power of hands. (o)
				Weight.	Standing.	Sitting.	Max. Length.	Max. Width.	Cephalic Index.	Min. Width of forehead.	Height.	Max. Circumference.	Min. Circumference.	Circumference of Chest.	Width of Shoulders.	Max. Width of Pelvic Crests.	Width of Hips.	Max. Girth of forearm.	Min. Girth of Wrist.	Max. Girth of Calf.	Min. Girth of Ankle.	Right. (per square inch.)	Left. (per square inch.)
Above 6 and under 9	M.	99	5% above average.	29	10	11	4	8	...	8	5	2	12	9	16	16	12	16	15	18	19	40	45
			5% below average.	33	17	9	3	6	...	8	13	1	11	9	16	18	15	15	19	20	24	41	40
	F.	101	5% above average.	29	11	13	6	5	...	4	7	4	19	15	14	14	13	17	14	19	19	42	42
			5% below average.	37	11	8	4	4	...	12	8	5	14	19	15	13	16	21	18	23	17	40	41
Above 9 and under 12	M.	100	5% above average.	32	15	9	...	5	...	7	6	2	7	23	17	9	18	17	18	23	19	34	33
			5% below average.	34	10	12	1	3	...	9	5	3	10	24	19	13	20	21	20	26	19	41	35
	F.	100	5% above average.	33	15	7	3	4	...	4	10	1	14	18	19	14	16	20	14	24	24	35	40
			5% below average.	30	14	12	8	7	...	8	9	6	17	19	20	18	18	18	18	27	26	32	39
Above 12 and under 15	M.	100	5% above average.	33	19	17	5	5	...	9	8	5	16	17	28	15	17	16	18	20	22	39	29
			5% below average.	40	15	8	1	10	...	11	5	6	15	17	20	18	16	22	24	25	23	42	42
	F.	100	5% above average.	32	18	19	3	10	...	5	9	6	21	17	22	25	21	28	25	27	23	42	39
			5% below average.	42	13	16	2	8	...	6	12	7	19	20	23	27	29	32	22	34	21	40	40
Totals	M.	300	5% above average.	94	44	37	9	18	...	24	19	9	35	49	61	40	47	49	51	61	60	104	107
			5% below average.	107	42	29	5	19	...	28	23	10	36	50	55	49	51	58	63	71	66	124	117
	F.	300	5% above average.	94	44	39	12	19	...	13	26	11	54	50	55	53	50	65	53	70	63	119	121
			5% below average.	109	38	36	14	19	...	26	29	18	50	58	58	58	63	71	58	84	64	112	120
	Both Sexes	600	5% above average.	188	88	76	21	37	...	37	45	20	89	99	116	93	97	114	104	131	126	223	228
			5% below average.	216	80	65	19	38	...	54	52	28	86	108	113	107	114	129	121	155	130	236	237

See footnotes to Table X.

metric Committee in the British Association Reports for 1879 to 1883).

Compared with the measurements for 'all classes' collected by the Anthropometric Committee, which were chiefly for English children, the height in Aberdeen was fully 1 inch above the average at the first two years of age (six and seven years) in the accompanying tables, and about equal to the average at other ages. It was about ½ inch to 1 inch above the average at every age for the artisan classes of towns; but, at the higher ages, it was 1 inch to 2 inches less than that for the professional classes.

Height (sitting).—The measurements appear to show that in both sexes the limbs grow slightly faster than the trunk. At six to nine years the proportion of height sitting to height standing was as 1 : 1·81 in boys, and as 1 : 1·80 in girls; at nine to twelve years it was in both sexes as 1 : 1·85; and at twelve to fifteen years it was, in boys, as 1 : 1·89, and in girls, as 1 : 1·88.

Weight.—The boys were at every age heavier than the girls, except at the age of thirteen to fourteen. The statistics of the Anthropometric Committee show that this is usually true, except that girls at both thirteen to fourteen and fourteen to fifteen are distinctly heavier, as they are also taller than boys. The increase of weight with advance of age appeared to be irregular, but was most pronounced in both sexes in the later years of school life. Weight increased more rapidly than height—the height (in inches) being to the weight (in lbs.), at six to nine years, as 1 : 1·1; at nine to twelve years, as 1 : 1·23, and at twelve to fifteen years, as 1 : 1·5. The ratio was slightly less in respect of weight among girls than boys in each age-group. These ratios agree closely with the averages of 'all classes' obtained by the Anthropometric Committee, except that the weight ratio was higher among boys than girls during the last age-group.

Head.—The head was greater in all its dimensions among boys than girls, and the differences continued practically unaltered at all the ages examined. The difference ranged from 1·6 per cent. in the average maximum width to 2·8 per cent. in the average maximum length. The heads of the boys were, therefore, slightly more dolicephalic or 'long-headed' than those of the girls; and the cephalic index was slightly less in boys (about 79) than in girls (about 80). The cephalic index was less in the older than the younger girls. In boys it was practically the same in all the age-groups. The type of the head, as determined by the cephalic index, was what is known as mesato-cephalic, and is very slightly broader than the average English head. The dimensions of the head increased less with the age than any other measurements taken, the increases during nine years varying from about 10 per cent. for the width of forehead to 4 to 6 per cent. for the other dimensions. During the same period, the height of the person increased by 36 per cent. The width of the forehead as contrasted with the bi-parietal width, or width of back portion of head, was proportionally greater in the older than the younger children.

Neck.—The neck was thicker in boys than in girls at all ages, and by about 4·6 per cent. on an average, though, owing to the more rapid growth of the neck of girls, especially in the last two years, the difference was less at the later than the earlier ages.

Trunk.—Over all the ages, the *circumference of the chest* was, on an average, 4·4 per cent. greater in boys than in girls, but the difference was less at the later ages, due, no doubt, largely, if not entirely, to the commencing development of the breasts in girls. In both sexes the rate of growth of the chest was greater in the later than in the earlier years.

The chests generally were somewhat flat, and appeared capable of fuller development with a larger amount of properly-arranged exercise.

Compared with measurements given for 'all classes' in the British Association Reports, the chest measurements of the Aberdeen boys were under the average by one to two inches at ten years of age, but the difference rapidly falls with each year of age until at fourteen to fifteen it is only about half an inch. No chest measurements are given in the Association Reports for children under ten years.

The *width of the shoulders*, as measured from the acromial tips, was greater, on an average, by 1·7 per cent. in boys than girls, but in the last two years (thirteen to fourteen and fourteen to fifteen) the difference became extinguished, and the girls showed the wider shoulders. The growth was fairly steady throughout the years, though somewhat more rapid in the later years, especially in girls.

The *width of the pelvic crests*, or haunch bones, was greater in boys than girls until the last two years, when it became greater in girls. Within the ages dealt with, the width of the shoulders in boys grew more rapidly than the width of the pelvic crests, while among girls the reverse was true.

The *width of the hips*, as measured from the outside of the large trochanters of the thigh bones, naturally follows in its growth the width of the pelvis, but the increase was more rapid in both sexes. As in the width of the pelvis, it was greater in boys than girls until the last two years, when it was greater in girls.

Limbs.—The *girth of the forearm* was, on an average, about ½ cm. or ¼ inch greater in boys than girls. At eleven to twelve and twelve to thirteen in boys the girth rapidly increased, and afterwards increased more slowly. In girls it grew slowly at eleven to twelve, but increased rapidly afterwards.

The *circumference of the wrist* was at most ages only slightly greater in boys than girls; at two ages it was the same or less; and at fourteen to fifteen the excess in boys was only 0·1 cm. or $\frac{1}{20}$ inch. If the average girth of wrist at each three-year age-group be deducted from the girth of the forearm, the following figures are got:—

Age-group.	6 to 9 yrs.	9 to 12 yrs.	12 to 15 yrs.
	cm.	cm.	cm.
Boys, . . .	4·9	5·8	6·5
Girls, . . .	4·6	5·3	6·1

From which it will be seen that the difference, representing the soft parts of the forearm, shows a fairly steady increase with age in each sex, and that it is, at each age-period, greater in boys than girls by 0·3 to 0·5 cm.

The *circumference of the calf* was greater in boys than in girls at all ages, except six to seven, twelve to thirteen, and thirteen to fourteen. The rate of growth of the calf is somewhat greater proportionally, in both sexes, than that of the forearm, being, from six to fifteen years, in boys, 38 per cent. for the calf, and 31 per cent. for the forearm; and, in girls, 35 per cent. and 33 per cent. respectively. This may point to insufficient exercise of the arms as compared with the legs.

The British Association Reports give the average calf measurements of the Marlborough School boys, from the age of ten upwards. Compared with these, the measurements of the Aberdeen boys are less, by about three-quarters of an inch, at all the ages above ten, except at fourteen to fifteen, where the difference is reduced to one-third of an inch. The boys of that school belong to the better classes, and freely indulge, in common with the boys in all English public schools, in outdoor games.

The *circumference of the ankle* was thicker in boys than girls at the earlier ages, but the difference gradually diminished, until, at the later ages, it was practically the same in both. If the girth of the ankle is deducted from that of the calf, the following figures are obtained:—

Age-group.	6 to 9 yrs.	9 to 12 yrs.	12 to 15 yrs.
	cm.	cm.	cm.
Boys, . . .	7·6	8·4	9·7
Girls, . . .	7·6	8·4	10·0

which, differing from the corresponding figures for the forearm and wrist, give (1) an equal or greater volume of soft parts in girls than boys at all ages, and (2) a much more rapid growth, in both sexes, at the later than the earlier ages.

A comparison of the figures, in the text, for the forearm and calf shows that the increase of the soft parts of the forearm, between the lowest and the middle age-groups, was about 17 per cent., and between the middle and the highest groups, 13 per cent. The corresponding percentages for the calf were 11 and 17. It may legitimately be asked if the greatly diminished rate of growth of the forearm at later ages, as contrasted with the greatly increased rate of growth of the calf at later ages, is not, in some measure, dependent on an inadequate amount of arm exercise.

The muscular power, as tested by the *grasping power of the hand*, was found to be practically the same for each hand in both sexes. It was greater in boys than girls at all ages, but the difference diminished with increase of age. Thus, at six to nine years, the grasping power was 20 per cent. greater in boys than girls; at nine to twelve years, it was 16 per cent. greater; and, at twelve to fifteen years, it was 14 per cent. This is almost contrary to expectation.

It is interesting to note that although the volume of the soft parts of the forearm was about 7 to 9 per cent. greater in boys than girls at each age-group, the difference in muscular power was greater than the difference in volume, indicating either that the volume of the forearm in girls contained less muscle and more fat than in boys, or that the muscle was less vigorous.

In keeping with the diminished rate of growth of the forearm at later ages, already remarked, the hand grasp was found to exhibit, in both sexes, less increase between the second and third age-groups than between the first and second.

It may be stated that the muscular power test used by the Committee of the British Association, which consisted in ascertaining the 'drawing strength' by one arm or hand pulling against the other, as in the use of a bow and arrow, a spring balance marking pounds being stretched between the hands and being used as the measure, gave a much wider difference between boys and girls than was obtained in the present inquiry. In the Committee's tests, the strength of the boys was at each age almost double that of the girls, though, as in Aberdeen, the difference tended to become less with advance of age. Such an enormous difference, which cannot be said to correspond fairly with the general difference in strength between boys and girls, makes it more than doubtful whether the test used by the Anthropometric Committee is a satisfactory one.

Remarks on the Table of Deviations.

(*See* Table XII.)

The number of children at each year of age, with measurements outside the 5 per cent. variations from the average for the particular age, affords an index of the degree of variability of the different measurements. The parts of the body most liable to variation are, presumably, those which are most capable of being influenced by physical agencies.

Thus determined, the parts or measurements may be placed in the following order, according to their degree of variability, beginning with the most variable. The figures give, for each sex and measurement, approximately the total *percentage* of children having a measurement more than 5 per cent. above the average or more than 5 per cent. under the average for their year of age. Roughly, about one-half of each figure corresponds to the downward variation, and one-half to the upward.

		Boys.	Girls.
Grasping power,		75	80
Weight,		67	68
Leg	Girth of calf,	43	50
	Girth of ankle,	45	43
Arm	Girth of forearm,	36	45
	Girth of wrist,	38	37
Trunk	Width of shoulders,	39	38
	Width of hips,	33	38
	Girth of chest,	33	36
	Width of pelvic crests,	30	39
Neck,		24	35
Height (standing),		26	27
Height (sitting),		22	25
Head	Height of head,	14	18
	Min. width of forehead,	17	13
	Max. width of head,	12	13
	Circumference of head,	7	10
	Max. length of head,	5	9

It must, of course, be admitted that the apparent great variability in the grasping power may be due in part to a deficiency in skill in using any test apparatus.

It is obvious that weight is greatly more variable than height, that the limb measurements are more variable than those of the trunk, and that this is apparent on a comparison, not only of the widths and circumferences, but also of the heights, sitting and standing; and that the least variable are the head measurements. It is also to be noted that width measurements of the skeleton are more variable than length measurements, as may be seen from a comparison of the width of shoulders or pelvic crests with height.

In any system of bodily measurements for the purpose of ascertaining the effects of physical training, it may, therefore, be proper to include a fair proportion of width and girth measurements.

With regard to the differences between the sexes, it will be observed that, while the girth of the wrist and ankle is nearly equally variable in the two sexes, the girth of the forearm and calf is distinctly more variable in girls than boys, due, perhaps, to the less general indulgence in exercise by the former. Further, all the trunk measurements, except the width of shoulders, are more variable in girls than boys; and so also, in a marked degree, is the circumference of the neck. There is scarcely any difference between the sexes in the variability of the height (standing), but there is an appreciably greater variability among girls than boys in the height (sitting). The measurements of the head, except the minimum width of the forehead, are, most of them, distinctly more variable in girls than boys.

The other measurements, including the weight, are of nearly equal variability in the two sexes.

As to the effect of age, deviations in weight and height were more numerous at the later than the earlier ages. This was also distinctly true of width of shoulders, in both sexes, and of width of pelvic crests and hips in girls. Variations in chest girth were not materially affected by age in girls, though in boys they were greater at the middle age-group than at the others. Variations in girth of forearm and calf rose markedly in girls at the later ages; they were more steady in boys. It is at the later ages that the difference between boys and girls in the effects of exercise are likely to be most obvious.

Comparison between Children according to Size of House.

(*See* Tables XIII. and XIV.)

The size of house from which the child comes is one of the most convenient and reliable of available indications of the social condition of the child. In Aberdeen, 30·5 per cent. of the children examined came from houses of one or two rooms, 29·5 per cent. from houses of three rooms, and 40·1 per cent. from houses of four or more rooms.

According to the last census, roughly one-third of the whole population of Aberdeen was found to be living in each of these three groups of houses. The proportions of the children examined, therefore, represent approximately the social condition of the whole children, except for a preponderance in the proportion of children from houses of four or more rooms, which was due to the difficulty of getting sufficient children at the ages of thirteen to fifteen in the ordinary elementary schools in the poorer parts of the city. It has therefore been thought advisable in the accompanying tables not to carry the comparison beyond the ages of thirteen. Even with this limitation, the numbers for each group at certain ages are too small to be of much service, but a general survey of the Table may give fairly reliable conclusions. The comparison is confined to 'mental capacity,' 'state of nutrition,' 'cleanliness,' and certain representative measurements. A separate Table is given for each sex.

In point of *mental capacity*, the boys from one- and two-roomed houses were on an average appreciably better than those from houses of four rooms and upwards, who were in turn better than boys from three-

TABLE XIII.—Comparison of Children according to Size of House. MALES.

ABERDEEN. (*Has no corresponding Edinburgh Table.*)

Age. — Years.	Size of House, — Rooms.	No examined.	Mental Capacity.					State of Nutrition.			Cleanliness.			Measurements.							
			Excellent.	Good.	Medium.	Dull.	Defective.	Stout.	Medium.	Thin.	Good.	Medium.	Bad.	Height.		Weight.	Circumference of Chest.	Width of Shoulders.	Girth of Forearm.	Girth of Calf.	Hand Grasp (right).
														cms.	ins.	lbs.	cms.	cms	cms.	cms.	lbs.
Above 6 and under 7	1 and 2	11	3	4	2	2	...	2	7	2	6	5	...	111·0	43·7	44·0	54·2	24·6	15·7	20·9	6·4
	3	11	0	6	2	3	...	5	6	...	8	3	...	111·4	43·9	47·8	54·7	24·3	16·4	22·4	6·7
	4 +	10	1	1	7	1	...	3	5	2	10	...	...	115·2	45·4	49·2	55·3	25·4	16·4	22·5	7·2
Under 8	1 and 2	18	2	10	4	2	...	5	12	1	8	10	...	117·4	46·3	51·6	58·3	25·9	16·5	23·0	6·5
	3	9	0	3	3	3	...	0	8	1	8	1	...	116·6	45·9	49·5	56·7	25·0	16·3	22·5	7·7
	4 +	6	...	3	2	1	...	0	5	1	5	1	...	119·7	47·2	52·7	57·7	26·9	16·8	23·7	8·8
Under 9	1 and 2	18	3	11	3	1	...	4	14	...	14	4	...	118·9	46·9	54·8	58·2	27·1	17·1	23·0	8·2
	3	10	2	4	2	2	...	4	6	...	5	4	1	121·5	47·9	54·5	59·9	28·5	17·3	23·7	8·9
	4 +	6	...	3	2	1	...	2	4	...	5	1	...	121·2	47·8	55·5	59·1	27·2	17·2	24·4	9·2
Under 10	1 and 2	14	1	6	7	...	...	5	8	1	10	3	1	124·2	48·9	57·6	60·9	27·9	17·9	24·4	9·2
	3	9	1	5	3	...	...	2	7	...	7	2	...	124·6	49·0	60·7	60·7	27·9	17·2	24·4	9·6
	4 +	10	1	6	3	...	...	2	7	1	7	2	1	125·8	49·5	60·2	58·3	27·4	17·8	24·3	10·9
Under 11	1 and 2	9	...	5	4	...	...	...	8	1	5	4	...	129·0	50·8	61·5	60·8	27·9	17·8	24·6	11·2
	3	12	1	6	5	...	...	...	10	2	10	2	...	128·2	50·5	60·5	62·9	29·0	18·1	24·8	11·1
	4 +	13	1	10	1	1	...	2	8	3	13	...	...	132·0	52·0	65·8	61·2	28·7	18·0	25·7	11·5
Under 12	1 and 2	6	...	3	3	...	...	1	4	1	4	2	...	134·5	53·0	67·2	62·9	29·8	18·7	27·2	11·7
	3	14	1	3	6	4	...	2	11	1	10	4	...	137·2	54·1	72·3	65·1	29·6	19·5	26·2	11·6
	4 +	13	5	4	3	1	...	2	9	2	12	1	...	135·5	53·4	69·3	64·0	29·1	18·7	25·7	10·9
Under 13	1 and 2	8	...	5	3	...	...	...	6	2	4	4	...	137·9	54·4	72·9	65·2	30·2	19·5	26·0	12·4
	3	9	3	1	3	2	...	1	8	...	7	2	...	140·9	55·5	75·3	67·3	30·1	19·9	26·1	12·4
	4 +	18	3	7	6	2	...	3	11	4	16	2	...	143·7	56·6	80·3	66·1	31·1	19·8	27·0	12·2
Totals	1 and 2	84	9	44	26	5	...	17	59	8	51	32	1								
	3	74	8	28	24	14	...	14	56	4	55	18	1								
	4 +	76	11	34	24	7	...	14	49	13	68	7	1	Average for all Ages.							
Percentages	1 and 2	...	11	52	31	6	...	20	70	10	61	38	1	124·7	49·1	58·5	60·1	27·6	17·6	24·2	9·4
	3	...	11	38	32	19	...	19	76	5	74	25	1	125·8	49·5	60·1	61·0	27·8	17·8	24·3	9·7
	4 +	...	14	45	31	10	...	18	65	17	90	9	1	127·6	50·3	61·9	60·2	28·0	17·8	24·8	10·1

TABLE XIV.—Comparison of Children according to Size of House. FEMALES.

(Has no corresponding Edinburgh Table.)

ABERDEEN.

Age. — Years.	Size of House. — Rooms.	No. examined.	Mental Capacity.					State of Nutrition.			Cleanliness.			Measurements.							
			Excellent.	Good.	Medium.	Dull.	Defective.	Stout.	Medium.	Thin.	Good.	Medium.	Bad.	Height.		Weight.	Circumference of Chest.	Width of Shoulders.	Girth of Forearm.	Girth of Calf.	Hand Grasp (right).
														cms.	ins.	lbs.	cms.	cms.	cms.	cms.	lbs.
Above 6 and under 7	1 and 2	18	5	6	7	...	...	4	12	2	12	5	1	109·7	43·2	44·2	51·6	23·8	15·3	21·5	4·8
	3	8	1	5	2	...	...	2	6	...	2	6	...	110·4	43·5	44·4	52·8	24·2	15·5	21·8	5·2
	4 +	8	3	4	1	...	...	2	6	...	8	...	...	114·7	45·2	49·1	55·7	25·7	16·5	23·2	5·7
Under 8	1 and 2	15	2	8	2	3	...	4	10	1	13	2	...	115·8	45·6	48·4	53·6	25·1	15·8	22·3	6·1
	3	11	1	4	4	2	...	2	8	1	9	2	...	114·8	45·2	46·1	54·8	25·2	15·8	21·7	6·7
	4 +	8	1	3	4	...	...	3	5	...	7	1	...	118·8	46·8	51·5	57·6	26·4	16·9	23·4	7·8
Under 9	1 and 2	21	7	8	5	1	...	4	17	...	12	8	1	117·9	46·5	49·7	54·8	25·9	16·3	22·7	7·1
	3	9	1	4	4	...	...	2	7	...	9	...	...	118·8	46·8	51·5	56·3	25·1	16·9	23·0	7·8
	4 +	3	...	2	1	...	...	...	2	1	1	2	...	116·8	46·0	48·2	55·4	25·3	16·2	22·7	4·8
Under 10	1 and 2	7	1	3	2	1	...	1	6	...	3	4	...	125·1	49·2	55·5	55·4	26·8	17·2	23·5	9·2
	3	8	1	6	1	...	...	5	3	...	8	...	...	128·8	50·7	56·8	58·4	26·4	17·2	24·6	8·2
	4 +	19	2	10	5	2	...	3	9	7	18	1	...	125·7	49·5	55·4	59·7	26·9	16·9	23·9	8·8
Under 11	1 and 2	9	...	2	5	2	...	2	5	2	3	6	...	123·9	48·4	57·8	57·3	27·3	17·0	24·2	7·8
	3	12	1	5	3	3	...	5	6	1	12	...	...	130·2	51·3	62·8	59·1	27·5	16·6	25·7	9·3
	4 +	12	1	6	4	1	...	1	11	...	12	...	...	129·8	51·1	62·7	58·9	28·7	18·4	25·6	9·9
Under 12	1 and	7	...	4	2	1	...	1	6	...	6	1	...	135·0	53·2	67·0	60·1	29·0	17·8	25·0	11·2
	3	14	...	9	5	...	...	2	12	...	12	2	...	133·6	52·6	64·8	61·8	28·6	17·6	25·4	9·4
	4 +	12	3	5	1	3	...	2	9	1	10	2	...	134·3	52·9	65·6	60·2	29·6	18·0	25·6	10·3
Under 13	1 and 2	8	...	5	2	1	...	1	7	...	8	...	...	139·8	55·1	75·1	62·2	28·8	18·6	28·1	9·4
	3	13	1	4	6	2	...	1	10	2	8	5	...	135·5	53·4	69·2	61·3	30·1	18·3	26·0	10·5
	4 +	12	2	7	3	...	...	1	11	...	12	...	...	143·1	56·3	74·9	62·8	30·4	19·0	26·9	10·4
Totals	1 and 2	85	15	36	21	13	...	17	63	5	54	29	2								
	3	75	6	37	25	7	...	19	52	4	60	15	...								
	4 +	77	12	39	20	6	...	13	55	9	71	6	...								
														Average for all ages.							
Percentages	1 and 2	...	42	25	15	15	...	20	74	6	64	34	2	123·9	48·7	56·8	56·4	26·7	16·9	23·9	7·9
	3	...	8	49	33	9	...	25	69	5	80	20	...	124·6	49·1	56·5	57·8	26·7	16·8	24·0	8·1
	4 +	...	15	51	26	8	...	17	71	12	92	8	...	126·2	49·7	58·2	58·6	27·6	17·4	24·5	8·2

roomed houses; but these differences were most pronounced at the early ages, and were almost reversed at the later ages, when the boys from the large houses took the lead, and boys from the smallest houses fell into the rear. The girls from the large houses were, on an average, the best. Those from one- and two-roomed houses had, however, the largest proportion of 'excellents,' but also the largest proportion of 'dulls.'

In respect of *cleanliness*, the children from the smaller houses were, as might have been expected, less satisfactory than those from the larger houses, the proportion of clean children showing a distinct diminution with a decrease in the size of the house.

As to *nutrition*, the largest proportion of apparently well-nourished children—the sexes being taken together—came from three-roomed houses, and the largest proportion of 'thin' children from houses of four rooms and upwards. These results are derived from the ordinary inspection of the children, and are not so reliable as those deducible from actual measurements.

In regard to *measurements*, it is obvious from even a hasty perusal of the accompanying tables that, in each sex, the *height* of children from four-roomed houses was, as a rule, greater than that of children from three-roomed houses, who, in turn, were taller than children from one- and two-roomed houses; but this is not the order at every age. For example, at eleven to twelve, among girls, those from one- and two-roomed houses were the tallest, but this is the only instance in the male and female tables where this occurs. At several ages, however, children from three-roomed houses were the tallest—viz., among boys, at eight to nine, and eleven to twelve, and, among girls, at eight to nine, nine to ten, and ten to eleven. The difference in height between the largest and the smallest housed group at each age varied from 0·6 inch to 2·9 inches, and averaged about an inch for males and 1·3 inch for females; and the difference was practically as pronounced at the earlier as at the later ages. It did not appear to be an increasing difference.

As regards *weight*, there were corresponding differences to those for height, varying from 0·7 lb. to 7·4 lbs. at each age, and averaging about 3·3 lbs. in males and 3·1 lbs. in females. The differences were not uniformly in favour of children from the largest houses. At two ages—viz., nine to ten and eleven to twelve—boys from three-roomed houses were the heaviest; at the remaining five ages, boys from houses of four rooms and upwards were the heaviest. Among girls, at eleven to twelve and twelve to thirteen, those from one- and two-roomed houses were the heaviest; and at eight to nine, nine to ten, and ten to eleven, those from three-roomed houses. At only two ages—viz., six to seven and seven to eight—were girls from houses of four rooms and upwards the heaviest. The difference in weight between the lightest and heaviest group at each age averaged 3·3 lbs. in the boys, and varied at the different ages from 0·7 to 7·4 lbs. In the girls, it averaged 3·1 lbs., and varied from 1·4 to 5·9 lbs.

App. IX.

If a careful comparison be made in the tables between the weight and height for each age and group, it will be found that the difference in weight usually follows the difference in height, irrespective of age, and also largely irrespective of the group, especially when it is kept in view that the ratio of weight to height is naturally not constant for all heights, but increases with increasing height. On the whole, however, after due allowance has been made for these considerations, the balance is in favour of children from houses of three and four rooms and upwards, but it is not large.

There still remains the substantial difference in height already fully detailed, and it is proper to consider whether the inferior height of the children from the smaller houses is due to home conditions. A similar difference has frequently been noted by previous observers, but, while it may be admitted that deficient feeding hinders growth, it must not be too readily assumed that this rather than inheritance is the chief cause of the differences in height observed in Aberdeen. Scarcely any of the children had a starved appearance, and, as already remarked, the apparently 'thin' children were in larger proportion among the children from four-roomed houses than among those from one- and two-roomed houses. Moreover, the disparity in height between the different groups did not, as already remarked, advance with increase of age, as might have been expected had home conditions been exercising a continuously deterrent effect.

It is by no means inconceivable that the average height of persons entering or reaching the upper ranks of life may be somewhat greater than the average height of those remaining or dropping within the lower ranks. The battle is still to the strong. And the extensive observations of the Anthropometric Committee of the British Association show that, on an average, the tall live longer than the short, and are presumably the stronger and healthier.

These remarks are intended only to show that in Aberdeen the children of the poorer and working classes generally are probably not suffering greatly in physique from insufficient feeding.

As to the remaining measurements given in the tables, it may be said generally that they showed somewhat similar differences to those already remarked for height and weight. The balance of advantage rested most frequently with the children from the larger houses, but it was often very slight, when allowance is made for difference in height. In the case of the boys, on an average of all the ages, after such allowance, the advantage belonged, perhaps, to those from three-roomed houses rather than to those from larger houses. This is true of all the measurements except the grasping power of the hand. In the case of the girls, on an average of all the ages, the three groups were very nearly alike, when allowance is made for difference in height.

(Signed) MATTHEW HAY.

ABERDEEN.

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ROYAL COMMISSION ON PHYSICAL TRAINING (SCOTLAND).

REPORT

OF THE

ROYAL COMMISSION

ON

PHYSICAL TRAINING (SCOTLAND).

VOLUME II.

MINUTES OF EVIDENCE AND INDEX.

Presented to both Houses of Parliament by Command of his Majesty.

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VOLUME II.

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SIR THOMAS GLEN COATS, BART.
SIR HENRY CRAIK, K.C.B.
MR M. HUGH SHAW STEWART, M.P.
MR J. CARFRAE ALSTON.
MR JOHN B. FERGUSSON.
MR GEORGE M^{c}CRAE, M.P.
PROFESSOR ALEX. OGSTON, M.D., C.M.

MR R. B. PEARSON, Advocate, *Secretary*.

TERMS OF REFERENCE.

To enquire into the opportunities for physical training now available in the State-aided schools and other educational institutions of Scotland; and to suggest means by which such training may be made to conduce to the welfare of the pupils; and, further, how such opportunities may be increased by Continuation Classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus to contribute towards the sources of national strength.

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"	Mr. T. A. Stewart, LL.D. -	H.M. (Chief) Inspector of Schools (Scotland) -	13
"	Sir Lauder Brunton, M.D., F.R.S.	Physician to St. Bartholomew's Hospital, London.	20
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"	Mr. J. G. Legge - - -	H.M. Inspector of Reformatory and Industrial Schools.	30
"	Mr. J. C. Colvill - -	H.M. Inspector of Schools (England) - -	40
1st May - -	Mr. A. Lobban - - - -	H.M. Inspector of Schools (Scotland) - -	43
"	Mr. Alan L. S. Tuke, M.B., C.M.	Medical Practitioner, Dunfermline - -	50
"	Mr. J. L. Robertson - -	H.M. Inspector of Schools (Scotland) - -	60
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"	Captain G. A. Armytage - -	Inspector of Military Gymnasia (Scottish District).	80
"	Mr. E. H. Burrows - -	H.M. Inspector of Schools (England).	86
12th May -	Miss Flora C. Stevenson -	Chairman of the Edinburgh (City) School Board.	90
"	Mr. S. M. Murray - -	Headmaster, Sciennes Public School, Edinburgh; and Vice-President of the Educational Institute of Scotland.	97
"	Mr. Kenneth Whitton - -	Assistant Master, Castle Hill Public School, Edinburgh.	105
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"	Mr. J. Malloch - - -	Headmaster, Blackness Public School, Dundee; and Lecturer on Education, University College, Dundee.	159
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"	Mr. C. J. Shearer - -	Chairman of the Ardrossan School Board -	168
27th May -	Mr. J. Turnbull - -	Headmaster, Alloway Public School - -	172
"	Mr. A. Andrew, B.A., Lond. -	Headmaster, Ochiltree Public School - -	178
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"	Mr. J. Mackenzie - -	Member of Kingussie School Board - -	182
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,,	Miss C. COWAN - - -	Headmistress, Possil Park Public School, Maryhill, Glasgow.	204
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,,	Mr. J. ELPHINSTONE, M.A. -	Headmaster, King Edward Public School, Aberdeenshire.	242
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,,	Mr. T. D. SAVILL, M.D. - -	Physician to the Hospital for Diseases of the Nervous System, London, etc.	257
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"	Mr. G. MACKAY, M.D., F.R.C.S -	Ophthalmic Surgeon to the Royal Infirmary, Edinburgh.	417
"	Mr. B. P. LEE - - -	Sheriff-Substitute, Forfarshire - -	422
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"	Mr. R. ROSS - - -	Chief Constable, Edinburgh (City) - -	433
16th September	Mr. R. MILNE MURRAY, M.B., C.M.	Physician to the Maternity Hospital, Edinburgh	437
"	Mr. G. MACKAY - - -	Teacher, Skerries School, Lerwick - -	440
"	Mr. G. CRUDEN, M.A. - -	Lecturer on Physical Training in the University of Aberdeen.	445
"	Mr. R. CARTER, M.A. - -	Rector, Edinburgh Academy - - -	457
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"	Mr. H. RIPPON SEYMOUR - -	Gymnastic Instructor, George Watson's College, Edinburgh.	465
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"	Mr. G. F. MACNEE - -	Lecturer on Physical Training in the Church of Scotland Training College, Edinburgh.	504
19th September	Major-General Sir IAN S. M. HAMILTON, K.C.B., D.S.O. -	Military Secretary, War Office - -	507
"	Mr. A. S. REID, M.A. (Cantab.), F.G.S. - - - -	Assistant-Master, Trinity College, Glenalmond.	512
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30th September	Professor F. O. BOWER, F.R.S. -	Regius Professor of Botany in the University of Glasgow.	530
"	Mr. H. J. SPENSER, LL.D. -	Rector, High School, Glasgow - - -	534
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MINUTES OF EVIDENCE

TAKEN BEFORE THE

ROYAL COMMISSION

ON

PHYSICAL TRAINING (SCOTLAND).

FIRST DAY.

Tuesday, 29th April 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE McCRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr JOHN STRUTHERS, M.A., examined.

1. *By the Chairman.*—You are Mr John Struthers?—Yes.

2. And what is your official position?—Assistant Secretary of the Scotch Education Department.

3. How long have you been so?—About three years, I think.

4. And before that?—Before that, Inspector from 1886.

5. In Scotland?—In Scotland; in various districts of Scotland—Aberdeen, Edinburgh, and Perth.

6. And therefore have as considerable a knowledge of all matters regarding schools in Scotland, I suppose, as any one?—Well, it is scarcely for me to say, but still I may say I have considerable knowledge.

7. You have been kind enough to send us a printed form. Have you got a copy of it?—Yes.

8. Well, I think it would be for the convenience of the Commission if you would proceed to go through that, please?

I.—The earliest reference to drill in the Code is to be found in Article 24 of the Code of 1873, which, under certain conditions, permitted time spent in drill to be reckoned as part of the school attendance for which grant might be claimed.

This provision was taken advantage of to some extent, and the number of schools in which military drill was taken increased gradually from 38 in 1874 to 495 in 1895.

The Code of 1895 enacted that the inclusion in this curriculum of drill or some other form of physical exercises should be a condition of the higher grant for discipline. That is to say, that a certain item of the grant, which might be either 1s. or 1s. 6d. on the average attendance, was paid at the higher rate only when some provision was made in the ordinary course of instruction for physical exercises in some systematic form.

As a consequence, the number of schools taking military drill leaped in the following year from 495 to 848. These figures by no means represent the full extent to which physical exercise, in some systematic form, is included in the curriculum of the schools. The Department's statistics take account only of military drill, but the Inspectors' reports for many years previous make frequent reference to the prevalence of other forms of systematic physical exercise.

In this, as in many other developments of school work, the zeal and devotion of women teachers pointed the way, and long prior to 1895, what is called musical

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drill or infant school drill (excellent both as a means of discipline and of recreation) had become established as part of the regular routine of every well-conducted infant school, and from the infant schools gradually spread upwards.

Existing conditions.

In 1899 the Department undertook a considerable reconstruction of the Code, and it is substantially under the Code as then reconstructed that the work is at present being conducted. The article of the Code (Article 19, A. 4 (a)) which relates to drill, is as follows (I have sent round a copy of the Code to each member) :—'Grants are made to schools upon certain conditions, '*inter alia*, that the scheme of work of the school pro-'vides for adequate physical exercise according to an 'approved system. In the senior division this exer-'cise may take the form of military drill.' That article is reinforced by Article 19, B. 2, which makes the provision of satisfactory arrangements for physical exercises or military drill a condition of the differential grant which may be allowed for general efficiency. That is to say, the school may get 6d. more than what is usually allowed, for good work, but in order to get that extra 6d. it must include drill in its curriculum. The importance of physical exercises in the estimation of the Department, and more particularly of military drill for the older boys, was further emphasized by Circular 279, of date 3rd February 1900. The effect of these measures is shown by the rise in the number of schools taking military drill from 848 in 1896 and 884 in 1899 to 1025 in 1901. That is the latest information that we have.

As already said, these statistics of military drill are only an imperfect indication of the extent to which physical instruction of a more or less systematic kind is given in the schools of Scotland. The Code requires that some provision for this kind of instruction shall be made in all schools which receive grants, and included in the series of questions as to the efficiency of the school, which the Inspector must answer before a grant is paid, is the following :— 'Is adequate provision made for instruction in physical exercises (Article 19, A. 4 (a))? Should the answer to this question be in the negative, the grant would be suspended till a special inquiry had been made, but I am informed that such cases rarely occur. The fact that about 75 per cent. of the Inspectors' reports make specific reference to drill, either by way of praise or blame, tends to show that the subject is not overlooked by them.

Present position.

The present position, then, is this :—The Education (Scotland) Act of 1901 requires attendance at school in all but exceptional cases till the age of fourteen ; the Code requires that the curriculum of every school shall make due provision for physical exercises ; and the Inspectors' reports show that almost without exception an endeavour is being made to fulfil this condition to the extent to which circumstances for the present permit. No doubt the value of the instruction given varies indefinitely. Not much is to be expected from a teacher who has grown old in the service, and whose opportunities for keeping himself abreast of the requirements of later days are few or non-existent. It is greatly to their credit that the attempt in so many cases should have been made at all. But, fortunately, in the large towns, where instruction of this sort is of most importance, and, indeed, in every centre of population of even moderate size, there is a sufficient supply of younger teachers, to say nothing of special instructors, to enable this side of school work to be carried to any degree of perfection that may be required, or that the reasonable claims of other objects admit of. Much has been done already. Much more, doubtless, remains to be done. What is wanted with a view to further progress is a clear conception of what is aimed at, and a careful consideration of the means by which the end is to be attained.

Scientific enquiry now necessary : problems to be solved.

Before we go much further I think we must have something like a scientific investigation of the multifarious systems of drill in vogue, with a view to determining their actual effect on the physique of children, and establishing, if possible, criteria of merit. Some systems are in origin systems for adults, broken down, as it were, for children, and one would like to have greater assurance that the essential differences between the adult and the child, between boy and girl, and between the boy of nine and the boy of thirteen or fourteen, have been sufficiently considered. Others, again, have grown up within the school, and have proved of unquestionable value as disciplinary agents for securing attention, obedience, alertness, and precision ; but though there is often much parade of physiological learning, there is a conspicuous absence of ascertained fact as to the effect on the growth and development of the children. Has the hour or two a week of school drill any effect whatever upon the physique, comparable to that produced in a well-fed healthy child by its many hours of play, by its walking and running to and from school, its contests in child's sports, and the help it gives in house or farm work? The answer is probably in the affirmative, but it might be as well to have that opinion supported by the positive evidence of statistics as to weight and height for age, and other signs of physical efficiency, as determined by competent observers with a medical training. An analogous question which presses for consideration is that of the relative value of games (I am thinking of the case of the older boys) as compared with school drill. It is at least significant that nations which were long before us in the field of physical education are beginning to have doubts on this point. Both in Germany and Sweden there is at present a very marked tendency to discard formal gymnastics in favour of games, and vigorous endeavours are being made in both countries to naturalise the traditional games of the English public schools. It may be that in secondary schools this branch of education has been overdone ; it is quite certain, I think, that in elementary schools it has not been sufficiently developed. Q. By that do you mean in the secondary schools in Scotland? A. Generally ; I was thinking of both England and Scotland in referring to these games. Q. But not thinking of abroad? A. Not thinking of abroad,—no. Interesting experiments in this direction have been made in London, Birmingham, Leeds, and other large towns of England (you will find an account of these in Vol. II. of the Special Reports issued by the Board of Education), while I can testify from personal experience to the beneficial results accruing from the football competitions between the Board Schools in Edinburgh introduced during my time as Inspector there. Then, again, the mere mention in this connection of the well-fed healthy child suggests that in considering how best to enhance the national strength, the question of physical exercise for the child may after all be quite a subordinate one. These are the kinds of questions on which it behoves the Department to obtain some light before it proceeds much further in the matter of regulating physical exercise in schools, and in resolving which this Commission may do invaluable service. The sort of points on which inquiries of this kind are meant to throw light are these: What is the proper amount of drill which ought to be given in the school? what time should be given to it? Secondly, Is it desirable to have anything like a uniform system of drill, or is it desirable to allow a considerable freedom of choice as to the form of drill that is to be adopted? That, of course, is a very important matter. Now, that is all that I have got to say about the drill in the elementary schools up to the age of fourteen.

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Games and school drill : relative value.

Existing opportunities for children over fourteen.

II. Coming now to another portion of the subject, the following is a resumé of the information in the possession of the Department as to the opportunities now existing for physical training for children over fourteen, whether in schools under the Code, in secondary schools, or in other ways.

There are found in schools under the Code approximately 21,000 pupils over fourteen years of age, of whom it is estimated that some 10,000 are boys, and in secondary schools under the inspection of the Department 9700, of whom 5730 are boys.

The regulations for physical exercises for children over fourteen in schools under the Code are those

already cited. It is a question for consideration whether the usual exercises for the older boys, say those over thirteen, are sufficiently differentiated from those for girls and for the younger children; whether greater use might not be made of games; and whether special exercises, such as shooting, the practice of extended order drill, judging distances, finding the way to a given point from a map, making rough maps of the neighbourhood, etc., might not be introduced with advantage. Exercises such as these have the advantage that, while involving active open-air exercise, they tend in a much higher degree to the development of individual intelligence than any system of routine drill. They, moreover, awaken fresh interest in the pupil, who may be already surfeited by years of squad drill. Article 24 of the Code was specially designed to give facilities for out-door instruction of this kind. It provides that—

'Attendance of scholars at military drill or swimming lessons, under a competent instructor, or at any other form of instruction provided for in the time-table and approved by the Inspector as being of the nature of, or contributing to the efficiency of, the instruction under Article 19, A. 4, 5, 6, and 7, may be counted as school attendance for such number of hours as is shown in the time-table approved by the Inspector.

'Should it be desired to count as school attendance, attendance at special lessons occurring irregularly, and not provided for in the time-table, due notice of the time and place of such lessons shall be given to the Inspector, and his approval obtained. Sanction under this Article for visits to museums, or any form of out-door lessons, will not, as a rule, be given, except in the case of military drill, for more than eighteen scholars at a time, under the charge of one teacher.'

The higher class schools are not subject to regulations of the Department, and precise information as to their provision for physical education is not available. They are, however, as a rule, provided with gymnasia, and it is, I think, matter of common knowledge that physical exercise in the shape of games is by no means neglected. It is possible that some of the interest and energy at present devoted to games might profitably be diverted to systematic drill and to exercises of the kind that I have already alluded to, and this is doubtless a point to which the Commission will direct its inquiries.

III. The population of Scotland between the ages of fourteen and eighteen, as estimated from the census of 1891, is in round numbers 379,000, being 193,000 boys and 186,000 girls. Of this number 21,000 are accounted for above as being still in attendance at schools under the Code, and 10,000 as pupils of secondary schools under the inspection of the Department. Allowing for the very small number in attendance at private secondary schools, it may be safely estimated that there are, broadly speaking, not less than 340,000 between the ages of fourteen and eighteen who are not in attendance at any day school, of whom something over a half are boys. The only State provision for the further instruction of such pupils is that of the Continuation Class Code. Articles 38–42 of that Code offer grants on certain conditions for instruction in physical exercises and military drill. The first session of work under the Continuation Class Code has just concluded, but very few claims of grant have been received yet, and it will not be possible for some time to give anything like a complete view of the work done. Sixty-one classes, however, with an expected attendance of 2541, made application for recognition under this section of the Code. This number includes some Boys' Brigade classes which made application for recognition, but doubtless there are other classes for physical instruction (probably few), conducted by philanthropic or church associations which, for one reason or another, cannot yet come under the Continuation Class Code. Making ample allowance for such cases, it is scarcely doubtful that the number of pupils between the ages specified who are receiving systematic physical instruction outside of the regular schools does not exceed 3500.

As the classes in this Division I. are merely a substitute for attendance at the day school, there seems no reason why drill should not be made obligatory on them, though this has not yet been done.

Continuation Classes: statistics: large number without instruction.

The number in attendance at the Continuation Classes of all kinds for the present year has not yet been ascertained; and owing to the fact that the statistics of the corresponding classes in previous years have been kept under three separate heads, viz., Evening Continuation Classes, Science Classes, and Art Classes, the same pupils very frequently appearing under more than one head, it is impossible at present to make any accurate forecast. My deduction, however, from a consideration of the statistics for previous years, is that the number of pupils between fourteen and eighteen who are receiving any form of systematic instruction outside the regular day schools does not exceed 70,000. We have therefore probably somewhere about 270,000 pupils, of whom something over half are boys, at the age at which continuation instruction, and particularly systematic physical instruction, would be especially valuable, for whom such instruction is either not provided, or who are unable or unwilling to take advantage of it. This, to my mind, is the most serious educational problem of the day. It may be that the necessary facilities are not always provided where they might be, but that is a matter which can be easily remedied. Local authorities as a rule are not unwilling to start Continuation Classes where there is any prospect of a reasonable attendance, and the State offers what may be regarded as generous support by bearing three-fourths of the necessary expenditure if only a moderate attendance is secured. What is particularly disheartening is that when the necessary facilities are provided and instruction is offered free, there is apparently so little desire to take advantage of it. It can scarcely be for want of time, for of recent years employment for young people has been regulated, so as to diminish both its length and severity. And there are indications that the unexpended energy finds vent in other and less desirable directions. Hooliganism, a disease incidental to the age in question, seems to be much more rife in this than in continental countries, and Lord Balfour of Burleigh had occasion recently in Circular 347 to draw attention to the large number of convictions for juvenile offences in Scotland. He says, 'It is impossible to overlook 'the fact that the large numbers of convictions of juveniles 'for police offences, as shown by the statistics of recent 'years, is a reproach to the school system of the 'country, and no effort must be spared to reduce the 'number of these offences, as well as to keep in check 'the disposition to rudeness and lawlessness which stops 'short of the commission of offences which are taken 'notice of by the Courts.' Now, the essential difference between this country and continental countries in this matter is the all-pervading sense of discipline in the latter, which results from universal military service. As a result of military discipline, a public opinion has been created which will not tolerate the inconsiderate and irresponsible behaviour which passes without remark on the part of the British youth. The youth is made at every turn to realise his obligation to the State, and the necessity incumbent upon him to expend his energy in useful directions. With us he is too frequently left to consult his own interests and pleasures, unchecked by even a semblance of parental control, and that at an age when he is incapable of forming an opinion as to what his true interests are.

Hooliganism.

Compulsory military service abroad: result.

Obligatory physical training law: some form desirable.

Now, I do not propose to say anything, one way or the other, as to compulsory military service; I do not even suggest that continuation instruction in the ordinary sense should be made obligatory, as it is in Saxony and several of the cantons of Switzerland; but it is, I think, worth consideration whether youths between fourteen and eighteen, who have left school, should not still be under obligation, to continue the physical training they have already received in schools, and to add to it certain exercises calculated to develop individual judgment, responsibility, and power of

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initiative. I think it probable that in this way considerable improvement in the physique, morale, and intelligence of the nation might be expected to result from a comparatively slight sacrifice of the leisure which is not always at present too well employed. The exact manner in which a scheme of this kind should be carried out would require careful consideration. Regard would require to be had to the different conditions of employment, and to the very wide differences as between town and country in the facilities for bringing youths together. I am satisfied, however, that it should be regarded as primarily an educational question. What is wanted is a means of continuing in some measure the discipline and the influence of organised opinion to which the youth would have been subjected had he remained at school, and of gradually accustoming him to exercise, under guidance, that power of independent action and liberty of judgment with which he will be fully entrusted when he reaches years of discretion.

Youths who remain at school after fourteen would of course be exempted from this obligation, provided the curriculum of the school makes satisfactory provision for physical training, and I think that some reduction in the period of obligation or in the amount of yearly requirement might be allowed in consideration of satisfactory work in Continuation Classes.

Training Colleges: since 1901, drill necessary.

IV. The Training Colleges have, I believe, for a long time past made some provision in most cases for the instruction of the male students in drill. As a consequence, a large number of teachers throughout the country are qualified in some degree to give instruction in drill in their schools. In addition, very many teachers are members of local Volunteer corps, but the Department possesses no statistics on this point. Up till 1901, however, drill, though generally taken, was no necessary part of the Training College curriculum; it was not included in the Department's scheme of examination; and was regarded more or less as an extra or voluntary subject, to be taken as the exigencies of other subjects allowed.

In 1901 the Department undertook (in Circular 329) a reconstruction of the Training College curriculum, and made drill and physical exercises a necessary part of the curriculum. It stands indeed first in the list of subjects, and reasonable proficiency will in ordinary cases be expected as a condition of the issue of a certificate.

The Colleges have been asked to submit proposals for the instruction of their students in this as in other subjects, and the nature of these proposals will be gathered from some of the syllabuses which I have here. In three of the Colleges the students are attached to local Volunteer battalions, and are exercised in all the regular work of the corps to which they are attached, including in at least one case (Edinburgh E.C. College) attendance at the summer exercise camps.

Perhaps if I read an extract from the syllabus sent up from that College, it would give an idea of the kind of thing they propose. In the Edinburgh College they have two courses, one for physical exercises and another more particularly for military drill:

'The students will, in addition, be expected to take 'part in the summer drills and training ordered by the 'Officer Commanding the 4th Volunteer Battalion the 'Royal Scots, to which they are at present attached.

'Military Drill.—Under this head the students will 'be exercised in all the movements necessary under the 'Volunteer regulations to qualify for the efficiency grant.

'In addition, opportunities will be offered to all the 'students, either during their course of training at 'the College or at the close thereof, of passing for the 'Sergeants' Proficiency Examination.'

10. *By Sir Henry Craik.*—That is the Church of Scotland College?—The Church of Scotland College at Edinburgh. The students of the Glasgow Church of Scotland College are also attached to a Volunteer corps; and those of the Free Church in Glasgow. Three colleges, as part of the regular instruction on this subject, ask or compel their students to join a corps of Volunteers.

11. *By Mr Alston.*—Are these the Normal Colleges?—The Normal Colleges.

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12. The Normal Colleges, not the Theological?—Oh, no.

13. *By Sir Henry Craik.*—That means three out of four?—Three out of nine.

14. Yes, but of four that are male?—Yes.

15. Three out of four that have male students?—Three out of six; two in Glasgow, two in Edinburgh, and two in Aberdeen.

16. But there are very few males in Aberdeen?—A comparatively small number.

17. Chiefly females?—Chiefly, yes.

18. There would not be enough to form a Volunteer corps or anything of that sort of the males in Aberdeen?—Not by themselves, but they might be attached to a Volunteer corps in the district.

The syllabuses of work for the present session are provisional only. It is proposed to have an inspection of all the Colleges this summer by Captain Armytage, Superintendent of Military Gymnasia in Scotland, with a view to arriving at an understanding as to the kind of curriculum in this subject which may ultimately be accepted.

There is every reason, therefore, to expect that in time there will be an abundant supply of teachers well qualified to conduct physical training in their schools, and meantime the Department is endeavouring by classes conducted under Article 91 (d) of the Code, to give an opportunity to existing teachers throughout the country to qualify themselves in some measure for giving instruction of this kind.

Code, Art. 91 (d): class for teachers voluntary.

Attendance at these classes, whether for physical exercises or for other subjects, is, and I think must be, entirely voluntary, but the willingness displayed by teachers to make considerable sacrifices, both of time and energy, with a view to enhancing their professional efficiency is very encouraging.

These classes were first started in 1900, and up to the present, ten courses for drill, attended by 479 teachers, have been held in various parts of the country. So far, these courses have been somewhat of the nature of an experiment, and vary greatly both as to the number of lessons given and the syllabus of instruction followed. These classes have been chiefly for military drill, but we take any programme of instruction, either of physical exercises or of military drill if it is reasonable.

Steps are being taken, as in the Training Colleges, to arrive at a more definite understanding as to the nature and amount of work that should be accepted as satisfactory.

Professional instructors: drill, etc.

In addition to the ordinary class teachers, there is probably room, as in the case of cookery and allied subjects, for a considerable employment of professional teachers of drill. These are, indeed, already employed in considerable numbers in the larger centres of population; and if any attempt is to be made to take in hand the physical training of youths between fourteen and eighteen, there will be a still further demand for their services. It is probably desirable, therefore, that steps should be taken, as has already been done in the case of special teachers of cookery, to formulate the kind and duration of training that should be required for recognition as special professional teachers of drill and allied subjects. In Sweden great importance is attached to the training of specialist teachers of drill, and in the Royal Gymnasium at Stockholm the course of training is long and comprehensive, extending over, I believe, three years. The only attempt with which I am acquainted to supply such a training in Scotland is made in the Physical Training College, Aberdeen, conducted by Lieutenant-Colonel Cruden, and the Commission may wish to make further inquiries as to this institution. In saying that, I ought to say that there may be others, but this is the one of which I know.

Physical drill: results referred to in Inspectors'

19. *By the Hon. Thomas Cochrane.*—Have you any reports from the Inspectors as to the results of this physical drill that has grown up since 1873?—We have reports from each school, which deal with the whole

work of that school. Sometimes these reports make reference to drill and sometimes they do not, but, of course, they are not published. They are merely in the portfolio of the school, in the office. A copy is sent down to the school managers.

20. Do they give a general impression, from the Inspector's point of view, as to whether the physical appearance of the children has improved since this system of drill has been in operation?—Frequently they remark on the improved appearance of a school when drill has been introduced, but, naturally, after it has become part of the regular work of the school, the difference in the physique is not so obvious, and they do not draw attention to it.

21. And, in the course of their duties, do they give any impression as to the manners of the children, whether they have improved where the drill was well carried out. You have put manners here; in one paragraph, I think, you draw some attention to that?—Yes. Well, of course, these reports deal with individual schools, and they frequently comment, as I have seen, on the improvement in the order and the general behaviour of the children in this particular school, which has been taken as the result of the introduction of drill, but I am not able to refer you to any general remarks applicable to the whole country that have been made by them.

22. Possibly we shall get that from the inspectors?—I think so.

23. Probably they will be able to give us their general impression as to whether the schools have benefited by this system of drill?—No doubt it can only be had from the Inspectors directly at present. We could, of course, obtain a report from each of the Inspectors, stating his opinions upon all these points, but I should think it would be better to ascertain it from such Inspectors as you think proper to call.

24. I see you mention here, 'Others, again, have 'grown up within the school, and have proved of 'unquestionable value as disciplinary agents for secur- 'ing attention, obedience, alertness, and precision; 'but though there is often much made of physiological 'learning, there is a conspicuous absence of ascertained 'fact as to the effect on the growth and development 'of the children'?—Yes.

25. That is the point I rather wanted to know—how we shall get evidence as to that from the general point of view also of the Inspectors, and some particular evidence perhaps by a medical gentleman who would be qualified to speak?—Yes. What I suggest is, that we want something more than general impression; we want detailed statistics as to that, the children regularly measured and weighed, tested for various signs of physical growth and physical efficiency, and a definite record kept. Most people are satisfied that, in a general way, drill is beneficial, but exactly as to how it is beneficial, or to what extent it is beneficial—I am speaking as to the physical development—it is very hard to say. Drill in the schools has two objects. One is to use it as a disciplinary agent, to make the children more alert, more obedient, to have a better command of themselves. That, I think, can be achieved by almost any of the systems of drill that are used in the schools. At present it is much more a question of the teacher than of the particular system of drill; but the other point, whether any of those systems of drill have a distinct and definite effect on physical development, is, I think, a point on which we want definite information.

26. These statistics are not kept, I think, at present?—They are not kept.

27. That is what I wanted to get at. Generally we all judge that drill gives a certain mental and physical alacrity which is a general advantage, but we do not know quite why?—Yes.

28. Then you draw some attention to the fact that it would be desirable that there should be a difference of training between the girls and the boys?—Yes.

29. Should you think exercises good for boys would not be so interesting for girls?—Yes.

30. They do not so much care about the actual drill?—I do not wish to express a decided opinion on the point; I merely make the suggestion that this is a matter which deserves inquiry,—whether the same kind of drill is suitable for girls, and what modification should be introduced. As matter of fact the drill in many schools for the older girls is different to that for the boys.

31. What sort of form does it generally take?—Well, a sort of complicated marches and exercise with bar bells, skipping rope exercises; dancing in some cases. These are things that are to be found specially in girls' schools.

Circular 279. Military drill: no complaints from School Boards: nautical training or swimming.

32. *By Sir Henry Craik.*—You refer to the Circular 279. That circular has not led to any objections on the part of the School Boards to the idea of military drill?—I am not aware that we have had any complaints.

33. In one paragraph of that circular it is said the main object will best be obtained by the action of School Boards in combination with local associations. The Department would be able, if the School Board saw its way to it, to admit the authorities say of a Boys' Brigade, or of a Cadet Corps?—Yes, I think so. As a matter of fact a certain number of Boys' Brigades do come under the continuation school, and I think that, in some cases, these have a more or less indirect connection with the School Board of the district, though one is not able to say precisely what it is.

34. In some cases they go for other instruction to the Board Schools?—To the Board Schools; to the Continuation Classes under the Board.

35. Has it come under your notice—returning to the top of page 2, on the top of that circular—whether there has been any nautical training, or swimming, or anything of that sort?—In the Edinburgh schools, several of the schools are provided with a school swimming bath, and instruction in swimming is part of the regular work of the school. I think it is possible. In Perth, I believe, there is a provision made for giving to a certain number of the scholars in the Board Schools free tickets for admission to the public baths, and providing instruction for them there in swimming; also offering prizes, I think, for efficiency, and there may be other cases here and there in Scotland, where instruction in swimming is given.

Games and drill: comparative values: supplementary to each other.

36. Turning, Mr Struthers, to your evidence again, you speak of the comparative value of games as compared with school drill. There is one consideration on which I would like to have your opinion—whether the games may not have a tendency rather to push aside the weaker or less well-developed children, and to give a prominence to the stronger children at their expense, which could be obviated by military drill?—I should always regard the two as supplementary to each other; that is to say, that I do not think that games alone should be the means of providing physical exercise for school children, but that something more than a uniform drill for every scholar is wanted, is rather my point.

37. Sanction is given under Article 24 to visit the museums, and these out-door lessons are not as a rule to be given to more than eighteen scholars at a time, except in the case of military drill?—Except in the case of military drill.

38. That would permit, then, a large number of classes to meet together in such places say as the Queen's Park at Edinburgh, and to be drilled together on a Saturday afternoon?—Yes, certainly.

39. And the time counted as an attendance at a continuation school?—Yes.

Grants under Code: amounts available for physical training.

40. Under head III. of your evidence you speak of the amount of the grant; that is, of course, three-fourths of the expenditure?—Three-fourths of the total expenditure.

41. And you think that the grant that is permissible under the head of physical drill would amount to three-fourths of the expenditure?—The grant, of course, is regulated by two things: first of all a maximum per attendance in the case of drill; it is 1½d. per hour. 2s. 6d. for twenty hours. 1½d. per hour of attendance for each pupil. They may get that full amount pro-

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vided it does not exceed three-fourths of the total expenditure; or you can put it the other way, that they will get three-fourths of the total expenditure if they have a sufficient attendance of pupils to earn that amount, at 1½d. per pupil per hour; that is to say, a class of 40 for drill at any one lesson would bring 5s. for that lesson.

42. Then the intention of the Code is that the grants should be so fixed as to coincide very much with the three-fourths of the expenditure?—Certainly.

43. And we presume that the expenses of a class for military drill are so much less than the expenses of another class that this lower grant would amount to three-fourths?—Probably less. Of course, the understanding at present is that these rates of grants are more than sufficient, that as a rule they ought to come to three-fourths of the total expenditure. They might possibly be reduced; they are kept at a higher rate at present in order to allow for some advantage to small places where they can only get a small number of pupils together, but if the rate under Division IV. was not sufficient in ordinary cases to enable the managers to get three-fourths of the total expenditure for a class of drill, then of course it would be for the Department to consider whether that rate should be increased; but we have not sufficient evidence to go on as yet.

44. At the close of the third section of your evidence, you speak of the possibility of requirement of attendance at a Continuation Class being made compulsory?—Yes.

45. Under the Act of 1901, School Boards have power to fix conditions as to granting exemption?—Yes.

46. Do you think, under that Act, that if they let a child away under fourteen from day school attendance, they might attach the condition of carrying on physical instruction?—I think so, but not beyond the age of fourteen.

51. You speak of those classes in Article 91 (d). In these classes I think the male and female teachers are very often joined together?—They are often joined together. Yes; but these classes so far are, as I have said, purely experimental. Further regulations may require to be made.

52. And possibly separating the classes?—Yes.

53. *By Sir Thomas Glen Coats.*—You do not make any mention, I think, of gymnasia in connection with Board Schools?—No.

Gymnasia in connection with the Board Schools: special school hours devoted to training. Certain amount of physical exercise per week essential.

54. Have you any knowledge of the gymnasia being erected in connection with the Board Schools?—Yes. I think most of the large boards have gymnasia in some form or another, either a separate gymnasium attached to the school, or they have apparatus for drill in the infant room, which is generally a large room. The desks are cleared out, and the apparatus is there for gymnastic exercises.

55. At special hours?—At special hours.

56. Are special school hours devoted to training?—In the Edinburgh schools the regular system is to have gymnastic apparatus in the infant room, which may be used after the infants are dismissed. They are dismissed earlier than the rest of the school, and the instruction in gymnastics is given in the infants room from 3.30 to 4 o'clock or 4.30, after the infant children are gone.

57. In the school hours?—Yes.

58. Then is it your opinion that this physical drill or physical development cannot be carried on with advantage during the school hours; that is, a portion of the time now devoted to other education should be devoted to this, as to a considerable portion of time?—Well, I think that a certain amount of physical exercise should be given per week. Whether that should be in addition to the time that is already given to other subjects or taken from it, is a matter to be determined. The essential point is that it should be given.

Continuation classes: great majority of apprentices able to give some portion of time on Saturday afternoon to systematic exercise or drill.

59. In the continuation classes, more particularly with regard to technical education, do you consider there would be time for, say, apprentices who are employed in engineering shops during the day, and attending these other classes in the evening, that they would have time for physical training beyond what they give to the educational work?—Well, there is the Saturday afternoon, which they devote to exercise probably in many cases of some form already, and I would suggest that some portion of that time—not every Saturday, and not the whole of it—but some portion of that time should be given to systematised exercise or drill. Then, while it is true that some lads, apprentices who are attending technical classes in the evening, are so fully occupied with that work that they could not spare time for drill in the evenings, that is only true of a very small number. The great majority of apprentices are either not attending a technical class at all, or if they are attending them, they are attending them for one or two hours a week.

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Games: not desirable to systematise them: must be left to voluntary action of teachers and children.

60. *By Mr Shaw Stewart.*—Have you any suggestions as to how games could be better organised?—Do you speak of Board Schools?

61. In Board Schools?—In Board Schools. Well, I think that you have got the suggestion already made in such associations as already exist in the Edinburgh Board Schools, for the encouragement of football, and in school competitions.

62. Do you see how the teachers could do more towards systematising these games?—I should not have too much of system. It is a matter which must be left very much to voluntary action on the part of the teachers, and to the goodwill of the children, and, as a matter of fact, in Edinburgh and in many other towns, it is the teachers who have promoted these associations for games, and who have devoted considerable time and trouble to coaching the boys and superintending and deciding as to what boys are to take part.

63. Then, as far as improving the organisation of games in Board Schools goes, that would depend upon the individual aptitude of the teacher?—To a large extent I think. Of course, I think that possibly something might be done to allow a larger number of children to take part in games. At present the school playground does not afford opportunity for a real game. They must have a field, or go to a public park. That is too far away from the school to be done every day, and on Saturdays the park is probably too much crowded to allow of anything but small sections from each school to play. Whether it is possible, I do not know; it is, at all events, a matter worth considering whether an arrangement might not be made by which different schools in the town had an afternoon in which the children of a certain group of schools were free on a certain afternoon, so that they might use the public parks, the recreation grounds, freely on that afternoon, while another set of schools took it on another afternoon. Then of course the question would have to be considered whether that ought not to be compensated for by an extra half-day attendance at school on Saturday.

Playgrounds at present unsuitable: suggestions for improvement.

Gymnastics and drill: length of time to be allotted.

64. Have you any suggestions to make as to how the system of gymnastics which is now in vogue could be improved?—You mean gymnastics as distinguished from drill?

65. No; perhaps I should say gymnastics and drill. Do you think that the time that is devoted to them is sufficient?—Gymnastics and drill together?

66. Gymnastics and drill together?—Well, I think that is one of the points upon which we want light. It depends upon what you want to achieve by your system of gymnastics and drill. If one is thinking only of cultivating habits of order and obedience and alertness, well, I think one gets very good results from a comparatively short time. A quarter of an hour a day, even a single lesson of an hour a week, has a very good result in that way, but if you are looking for something else, for a distinct improvement in the physique of the children, that may require a long time to be devoted to gymnastics and drill; but before the Department takes steps to make a longer time imperative, we must know what the actual result of this kind of instruction is on the development of the children. we must have absolute figures to show.

67. *By Mr Alston.*—You speak of drill, Mr Struthers. What do you mean by drill; do you distinguish between

physical exercises and drill?—Yes. Well, I think I can best answer by referring you to many of the manuals of drill and physical exercises which are to be found in use in schools such as I have here. Here is the 'Model 'Course of Physical Training for the use of Upper Depart-'ments of Public Elementary' Schools issued by the Board of Education. Well, that is called the Model Course of Physical Training, but a large part of it is what most people would call drill; that is to say, it has a certain semblance to military drill,—learning forming fours, marching, changing ranks, and so on.

68. Which either girls or boys could do?—Which either girls or boys could do.

69. Then, is this a model of what the training should be? That is to say, they must all do the same thing in the same way?—Well, I do not know whether that is published; whether it has been authoritatively issued. I suppose the intention would be that physical drill should be the same, but I could quite understand that that is not meant to be obligatory. They only publish that as a means of suggesting to teachers a course which they might follow, which they would then accept as thoroughly satisfactory, but I do not think it is the intention of the Board of Education in England to make that course compulsory, and to say that no other course should be followed, and personally I should be rather against trying to make any one course compulsory.

70. *By Sir Henry Craik.*—This is a model course, not compulsory?—The very name 'model' means that it is not.

71. *By Mr Alston.*—When the War Office issues a Red Book, they warn you most seriously against departing in any way from it?—Yes.

72. Now, suppose this physical exercise were introduced to the full extent, would it not be desirable that we should have a regular course, an authorised course, and all teachers should be instructed to conform to that?—Well, I think there is no question of the advantage, or rather the necessity, of uniformity for military purposes, but what we are dealing with is the drill or exercise for children under fourteen. Now, there is a big interval between fourteen and the time in which they could possibly be engaged in military operations. I think that uniform drill is wanted between fourteen and eighteen, if we ever do get powers of compulsory drill.

73. Oh, I was not so far on as that, because, as it is, the medical evidence shows that physical exercise should be conducted upon certain lines. Would it not be well that in any course of instruction the instructors should not be allowed to depart from it, because there are instructors and instructors, and some of them are anything but perfect as teachers of physical drill?—No doubt, but an inquiry might show that certain exercises were bad, and, therefore, ought not to be allowed; but I think the results of any inquiry would probably be that practically no objection would be found from the health point of view, or from the efficiency point of view, to most of the systems of exercise in vogue at the present time, such as are found in these text-books; and when you make one system compulsory, to the exclusion of the others, you stop the efforts of people to think out their own ideas. You get a system stereotyped, and no further progress is made until a revolution is made, and the system is found entirely unsatisfactory, is swept away, and something else is put in its place. Certainly, in other subjects, we have found it advisable to give up the practice of laying down hard and fast curriculums for schools. We would rather ask a school to propose a curriculum. We criticise it, reject it if it is absolutely bad, suggest where it might be improved, but we do not say, 'Here is your curriculum that you 'must follow,' and I am not sure that we have sufficient ground for taking a particular course in drill.

74. You consider that would be a better way than your laying down what you consider the best method?—I think so.

75. Constructed upon all the information you have got and all you can get?—After all, that perfect system has to be constructed by some particular man or set of men, who, no doubt, are prejudiced in favour of certain lines of thought; and my experience is that no man is a less fair judge of systems of drill than an instructor who follows one particular system.

76. Apart from physical exercises, then, I think your drill must mean very largely squad drill?—Very largely squad drill. Sometimes it gets the length of company formation.

77. Well, squad drill becomes monotonous; then would it not be possible to introduce company drill?—I think it is introduced in some cases already.

78. We have it in the Boys' Brigade largely?—Yes.

79. I was thinking of their example?—Yes.

80. You also want discipline introduced as well as proficiency in drill?—Certainly.

81. Can you get discipline by mere squad drill under a teacher, who may be a perfect teacher, but who has no control of a military kind, unless he happen to be an individual who has a special power of control?—Well, I should think that the average teacher has pretty effective control over his children, and, on the whole, my experience is that the teacher of the school who takes drill in his school has a very much better control over the children than the drill instructor who comes in from outside.

82. Then the instructors are the school teachers?—The school teachers at present, who take drill in most cases, except in the large towns such as Edinburgh, where they have special instructors, but even there the teachers take part to a certain extent.

83. In Glasgow I think they have outside instructors?—Oh!

84. These teachers, of course, must perfect themselves in this drill, to whatever extent they carry it?—Yes, they ought to know it reasonably well.

85. Well, squad drill might become monotonous after a little; full company drill might be more interesting?—Yes.

86. And even the extended drill, under modern conditions, in which the individual is left more to his own initiative?—Certainly.

87. That might be carried out with boys, might it not?—Yes, but I think more especially after the age of thirteen; any attempt to teach military drill to the extent of company drill below thirteen would be rather a mistake.

88. I quite agree, probably fourteen?—Fourteen.

89. Probably fourteen to eighteen?—There I entirely agree. I should say the only drill that ought to be allowed there is military drill, involving the company as a unit, and involving all the latest extensions of the drill for extended order drill.

90. And for company drill under the proper officers?—Certainly.

91. In order to give the full value to company drill?—Certainly.

92. And I think in that way you would have more chance of getting discipline?—There is no doubt when you are going through a military manœuvre there is greater sense of being under military discipline than in the mere teaching of exercises or *quasi*-military movements?—No doubt; at the same time, I just want to say once more that the time for the military drill and military discipline is after the age of fourteen rather than before it.

Continuation Classes: Boys' Brigade companies able to earn grants.

93. Was it not the case in the Code of two years ago in the evening continuation classes, that the Boys' Brigade companies were able to enter that field and get a grant in a few cases?—They still are, as far as I know.

94. I am afraid not, at least they feel that they are not. May I ask you on that point whether it would not be possible that they should still have the chance of carrying out those requirements that you desire to introduce?—Well I have no doubt if they stated the difficulties they feel by coming under the Code, they would be considered, but I have here a list of 61 schools taking drill under the Continuation School Code, and the very first on the list is in Aberdeen, 7th Company of the Boys' Brigade, with 40 pupils alone.

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95. Working under this?—Working under the Continuation Schools Code, and getting a grant.

96. And getting a grant?—Or at any rate it is to be hoped they will.

97. Under what would they get that grant; would you refer me to the article?—Articles, page 11.

98. Well, in clause 39: 'These classes shall be open 'to all pupils who are free from the obligation to 'attend school as required by the Education Acts, 'but—except in circumstances specially admitted by 'the Department—grants shall be paid on the attend-'ances of those pupils only who are shown to the 'satisfaction of the Department to be in regular 'attendance at a class in one of the other divisions for 'at least one meeting per week.' Is that not felt by the companies to be a difficulty?—No representation has come before me, in the course of ordinary official work, to say that that is so. If they felt a grievance on the point, they have not stated it.

99. Then probably some witness who may appear before us would give us information on this point?—Might I suggest that you may be cognisant of the difficulty they feel; do you know what is the nature of the difficulty they feel?

100. I have not any practical experience, but we can have three or four witnesses in Glasgow who can state exactly their difficulty, because three or four companies tried it under the Code of two years ago and found it very satisfactory?—Yes. Well, of course they require them to be in regular attendance at a class in one of the other divisions for at least one meeting per week; but then observe, 'except in 'circumstances specially admitted by the Department.'

101. Yes?—Well, if there is any reasonable cause for their not attending another class they have only got to state it, but if there is no particular reason why these children should not attend another class some one evening in the week, on the whole it is better that they should attend.

102. *By Sir Henry Craik.*—And these other classes need not be conducted under the management of the Boys' Brigade?—No.

103. They may be conducted under any other name?—Yes. The Boys' Brigade does not require to provide a class in drawing or in reading for the benefit of the pupils who are taking drill with them; all that they have got to do is to try and induce the boys to attend some classes that are already provided by the Board or other people.

104. That is under Article 40?—Yes.

104a. *By Mr. Alston.*—Suppose they could not attend these classes, does that make an end of it?—No, because the Code says, 'except in circumstances 'specially admitted by the Department.'

105. So that there might still be conditions under which they could get the grant?—Yes.

106. Then the 2s. 6d.; I presume it reads 2s. 6d. for 20 weeks of attendance by a pupil for one hour a week?—Yes.

107. That is equal to the old 1½d.?—1½d.

108. That seems to me satisfactory if they can get this grant under their own officers. However, we shall hear more of it?—Yes.

Drill and physical exercises: for those in Board Schools under thirteen, latter desirable: drill should be deferred to later stage.

109. *By Mr Fergusson.*—Military drill is what you refer to; military drill and physical exercises. Now, might one say that military drill is hardly a physical exercise at all?—Well, there again, I think one has got to have strict regard to the age of the children one is speaking of.

110. I am talking of Board School children?—Up to what age?

111. Up to the age they leave school?—Of course they stay in Board Schools to seventeen and eighteen sometimes.

112. Well, up to the age of fourteen we will say?—Quite. Yes. Well, I should think that up to the age of ten the very elements of military drill, that is to say, forming fours, sizing companies, and so on, especially the marching. The marching at the double is good physical exercise for the children, but at the age of twelve or thirteen or fourteen you probably want something more.

113. Yes, I was suggesting that it was the physical exercise you wanted, and you might leave the drill alone. The drill is a matter of discipline, I suppose, mostly?—Quite, yes.

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114. And you get all the discipline in the course of physical exercise?—Well, I think Mr Alston rather put the point that you do not; that there is something to be had from precise military discipline which you cannot get in the looser exercises, in the gymnasium, by the parallel bars, and so on.

115. Taking it from a military point of view, when they are teaching a recruit, when they are putting him through his physical exercise classes, they do not drill him at all. I think I am right in saying that the things are kept quite separate, drill and physical exercise?—Yes; but I certainly agree with what I think is your view, that physical exercise in the Board Schools below the age of thirteen should certainly be much more in the nature of physical exercise—what is understood to be physical exercise—than drill, and that drill should be deferred to a later stage.

116. Well, then, in the last paragraph but one you refer to the question, Is adequate provision made for instructions in physical exercise? and the answers by the Inspectors would seem to show that there is adequate physical instruction in most schools. Now I was certainly rather surprised at that from my knowledge of schools, but may it not be that Inspectors do not look much at drill—I know they are expected to know a great many things.—Yes.

117. But they are not competent to teach drill, are they, or physical exercise?—They could not put a company through its drill, or they could not teach physical exercise?—I should not think that most of them could; certain of them may have been, like myself, members of a Volunteer corps.

Inspectors competent to examine drill and physical exercises: common-sense not expert knowledge necessary. Desirable to let special occasions assist Inspector.

118. Do you think they are competent to examine in these subjects?—Yes, as competent as they are to examine in needlework and other things they have to examine in.

119. I would suggest they are not competent, that may be the reason for this statement here, that it is not a subject that Inspectors know much about, and that perhaps some of the older ones are not very much interested in, and the truth is that they do not take much notice of drill?—Yes.

120. Therefore this impression, that there is adequate instruction in physical exercises given in the majority of schools, may not be quite well founded?—Yes, I think that is true to a certain extent, because after all the subject has only recently been made—within the last two years—part of the regular school work which was expected to be found in every school. Then the Inspector in most cases is not an expert in drill, but then, as I say, he is not an expert in a good many things that he is supposed to report on, and I think that is a distinct advantage, because he looks at the various subjects of the curriculum in a common-sense way. After all, there is no mystery about drill; you are able, seeing it day after day and week after week, quite well, without having been drilled yourself, or gone through any lengthy course, to say whether it is being well or ill done or not. Similarly with drawing, and similarly with needlework.

121. Is there not a good deal of mystery in physical exercise? You may practise Sandow's exercises in the wrong way, and a great deal of harm may be done; a great deal depends on the way, so far as the health of the body is concerned; and it wants an expert eye to see when the thing is being done right, and when wrong?—Well, the expert eye in that case is generally only the instructor of the particular system. I suppose that Sandow would say that there would be no competent critic of the way his system should be carried out, except a person who had been trained in it.

122. You do not think you ought to have special inspectors for inspecting drill and physical exercises and gymnastics?—Well, I can only say that if we begin the special inspection of drill and physical exercise, we will have to begin the special inspection of a great many other subjects, with the result that

each of these sets of inspectors will be looking to the special interests of these particular subjects, and the life of the teacher and children will be worried out of them, and all proper balance of subjects will be destroyed. I certainly think we want some assistance to the Inspectors in the inspection of drill and other subjects; that is to say, that a specialist should be employed from time to time to go round a certain district and report through the Inspector, but I think his opinion—the opinion of an expert examiner of a special subject—should always be qualified by that of a man who is taking a general view of the work of the school.

123. In the second column there is a matter upon which I just want to ask you one question. You speak of the well-fed, healthy child?—Yes.

124. Is not that a very important matter?—Extremely important.

125. That the children should be well-fed and healthy?—Yes.

126. But at present, I suppose, one may say there is no supervision in Board Schools as to their health. Health is not considered much, or feeding, or any of these matters?—It is not considered sufficiently. Of course, such questions as ventilation receive their fair amount of attention in Board Schools, and I think that the careful teacher, and, on the whole, the most of them are careful, would make inquiries if they saw a child ill as to what was the matter with him, and to find out whether it was the want of food, and, if so, put him in the way—either go and see the parents and remonstrate with them—or put him in the way of getting help from some charitable institution. But, after all, that is only individual effort, and I do distinctly think there is very much need for some more systematic looking into the conditions of health of these children, including the matter even of feeding.

127. And it would become more necessary if we are doing the work which gives them bodily exercise?—Undoubtedly.

128. Physical training?—Undoubtedly.

129. Then both for their mind and their body it is of great importance to have them well fed and healthy. If you want to put any education into them at all, of any sort?—I think it is much more important than any amount of physical exercise.

130. Have any cases come to the Department's knowledge—any cases where it has been tried to feed the children, or do anything of that sort—have you any information?—Well, of course there are many districts in which voluntary associations provide free meals for children in the winter. In Edinburgh you have such an association, and in many of the other parts of the country, but of course that is not done systematically, and it has bad effects as well as good, because if the feeding of the children were inquired into as part of the regular work of the school by an officer appointed for the purpose, let us say, then a parent who was able to feed his child and did not do it, or fed him improperly, would be brought to book. At present the philanthropic agency very often simply relieves the parent of work that he ought to do.

131. If it is free. But why should it be free?—Well, in some cases it will require to be free. I think that a certain discrimination should be exercised.

132. But still, you would be in favour of taking such steps as could reasonably be taken, by giving facilities, especially in the winter time, for seeing after the feeding of the children as far as possible?—I would be in favour of taking any steps that would improve the feeding of the children that were found desirable after a very thorough inquiry into the subject, but I do not think it is a subject in which one ought to improvise opinions. It is a matter which must be very thoroughly inquired into.

133. There is just one other matter in regard to health. Have you considered the question of children in country schools, who come long distances and arrive at school very wet, and sit in wet clothes all day? Do you not think that is rather a serious matter as regards health?—I daresay it is. There, again, I should think if the children are well fed they can stand a good deal of that sort of exposure without any sort of ill consequences.

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134. Then it comes back to the feeding again?—It does, I think.

Games, voluntary: should be encouraged.

135. Then as to the games, do you not think there may be some awkward questions raised about teaching children football. Is not the tendency to discourage football now?—As I have said, I think that games are possibly overdone in higher class schools—secondary schools, but I do not think they are sufficiently developed in elementary schools. Of course a game, from its very nature, can never be made part of an obligatory system. The essence of a game is that it must be voluntary, but what is wanted, I think, is the encouragement of voluntary games, especially by the action of the teacher.

Instructors of drill for country districts: School Boards have to provide.

136. Then as far as the instructors are concerned who teach the physical exercises or drill in towns, I suppose it is pretty easy to get a qualified instructor, but there are difficulties in the country?—Yes.

137. The Department has not got any system of providing instructors for large areas, where they can take several schools on the same day?—You see the responsibility for providing the instruction rests not with the Department, but with the School Board. We do not directly employ teachers, the School Board employs teachers.

138. But the difficulty that the School Boards have is, that it is a very expensive thing for one school to get an instructor, but if there was a large district in which there was an instructor available for a large number of schools, they only want an hour a week each school, therefore assistance in combining these districts would solve the money difficulty to a large extent?—Oh, no doubt; of course it may be done by a combination of School Boards even at present, but that is always very difficult to bring about, and probably effective action in that way can only follow upon enlarged school districts of some form or other. Of course, on the other hand, I ought to say that as regards country children I do not think that the systematic physical exercise is so much required from the health point of view. It is very necessary for making them smart and alert, and having control of their limbs, but not so much from the purely health point of view, and therefore may be given in the schools in quite a simple way, and still be effective for that purpose, effective for the purpose of discipline; it does not require any elaborate arrangement of a special instructor coming round.

Health of Board School children: Department not in possession of medical statistics: no medical examination.

139. *By Professor Ogston.*—I should like, in addition to what has been already asked, to make sure that we obtain from Mr Struthers all the help he can give in regard to the question of the health of the children connected with this physical exercise. I suppose the Department has never collected from its officials any statistics regarding the weight and height of the children—the Board School children at given ages?—None; we have no statistics of that sort.

140. And I suppose you know of no reliable statistics in Scotland which exist altogether apart from the Department?—None.

141. You can refer us to none?—Nor in England.

142. I suppose there are some in England. I have the impression that in some of the secondary schools in England, in their returns, they give the average height and weight of the average child, and compare it with the height and weight of a school child—an English school boy?—Yes.

143. Can you give us any authoritative direction to where reliable statistics of that nature might be obtained?—Well, the only thing bearing on the point that I know of is a paper in the second volume of Special Reports issued by the Board of Education on physical training in the Girls' High School at Sheffield, I think it is; at any rate it is one of the papers in that volume; it could easily be identified, and there the procedure is described which they follow; they take account of the weight and height and so on, and the various measurements at different ages, and record progress as the pupil goes on month by month, and

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year by year, but I am not aware that any definite results of observations of that kind have been published. This is a description of the steps they are taking to get definite information, but personally I do not know any statement of ascertained results.

144. Then, in the next place, and somewhat kindred to it as regards the health of the children, have you, through your officials in the Department, any cognisance of the proportion of weakly children; have you any reports from your Inspectors or medical examiners regarding the health of the children?—Well, we have no medical examiners.

145. And so, in the case of epidemics, then you have no cognisance of disease?—That is a question for the local sanitary authority, not for the School authority.

146. They, so far as you know, possess no special information?—That I could not say.

147. Codified information regarding it?—I think it is possible that the Local Government Board or the authority for sanitary work may have information, but we have not.

148. You are not aware of it?—It is not part of the function of the Department really.

Physical exercises: children exempted on reasonable cause shown.

149. Then the question of a cripple, say, for instance, the proportion of cripples, has not been forced upon your notice in the Department in any way in connection with physical training?—No. Of course, we assume, and I have very little doubt that it is done, that if there is the slightest objection on the part of a parent to have his child put through physical exercise of any sort, the child is exempted, provided there is any reasonable cause shown, and a cripple certainly would be exempted. I would assume that.

150. Have you heard of any maladies such as sprains, joint diseases, and so forth being complained of—loudly complained of—as the result of anything of the kind?—I have never heard of any complaint of the kind.

151. No deaths, for instance, of boys bathing who suffered from ear disease?—Well, I am not sure; I do not know of any case, and I do not think that circumstances of that kind would in ordinary course be reported to the Department—I mean to say I do not think we are the authority to give information on the subject; it is a matter of public health.

152. There is a very interesting remark in the first page of your printed evidence, the second column near the foot, just some fifteen lines above No. 2, that you can testify from personal experiences to the beneficial results accruing from the football competitions between Board Schools in Edinburgh, and 'even during my 'time as Inspector there'?—Yes.

153. Could you help us by saying exactly how you judged?—Perhaps it would clear up that point if I say that I am thinking of the improvement in bearing and tone, that is to say, sense of honour, fair-play, smartness of behaviour, alertness, not of physical development at all. Of that I am not speaking; and as to the improvement in these respects, I have no doubt.

Hooliganism; absence of in continental countries; result of compulsory military discipline.

154. Might I refer you next to the second page of of your printed evidence, to the second column of it, about the centre, just above where the first paragraph ceases. After referring to continental countries, you gave us the impression that it was due to the military system that so little Hooliganism pervaded the community amongst the younger people as compared with ours?—That was my impression.

155. Have you any special knowledge that would help us to be quite sure of that; say, that would enable us to be certain that it was not from better police inspection and fining system. I refer, particularly, to Germany just now, the way in which they impose fines and intervene through the police in all little minor matters that we do not do here. Can you give us any reason for supposing that it was really due to their military system or system of drill?—Well, I can only state that that is my personal opinion from such observations as I have been able to make in Germany, Sweden, and other countries, and France. No doubt, better police regulations have something to do with it. But these better police regulations themselves are indirectly the result of the sense of discipline which pervades the nation. That is to say, I am pretty certain that there is a much stronger feeling of obligation on the part of the individual, and especially of young people, to the State, to do their duty in some specified form to the State, in continental countries than there is here, and that is the result of the compulsory military discipline. It has affected public opinion.

156. You are, of course, aware how vexatious those police regulations are in certain parts of the continent?—I have had personal experience of them of a very unsatisfactory nature.

157. Then, the last question I should like your help upon is, could you tell us—give us even a vague idea—of what the proportion of numbers is of large schools in connection with towns and populous localities, where there would be no difficulty in introducing some system of physical training and drill, and of schools in remote districts—I mean remote from one another—thinly populated districts, such as the Highland schools?—Do you mean the number of children?

158. Yes, the number of children?—Well, it would be rather difficult to do that.

159. Are they insignificant in the latter case; is the proportion of children in the Highlands insignificant?—Compared with the total bulk of school population in Scotland, I think that the population in the Highlands and in the rural districts generally is insignificant; that is to say, that the population of Scotland as a whole is predominantly an urban population.

160. And have you any suggestion as to applying a system of drill to such schools as I have referred to?—The outlying schools?

161. Yes, the outlying schools?—Well, I have got some ideas, but I am afraid they are not in such definite form that I should like to put them before the Commission. I rather regard that as a matter for the Commission to inquire into, and help the Department.

162. *By the Chairman.*—In the first place, may I ask you whether you take a great interest in this question yourself?—Yes.

163. Of yourself, or simply because you consider it your duty in your official position to do so?—Well, of myself.

164. Or both?—Both, I think.

165. Has it suddenly come to you, this interest in this question, or have you had it for a long time?—I have had it for a long time. Yes, I was always more or less interested in drill in Scotland.

166. The fact that there is not a sufficient amount of, you may call it play, as well as work, in schools?—I think so. Yes.

167. I am putting it on the highest ground, that you could instruct in physical training to be amusing, interesting, acceptable, as well as merely to do good?—Certainly. I do think I have long held the opinion, which I think was once very well expressed by Sir Henry Craik, that the time a child spends in school is, after all, a very considerable portion of his whole lifetime; that it ought not merely to be regarded as a preparation for what is to come. There ought to be a certain amount of enjoyment and sense of satisfaction in living during it.

168. Then, as regards all that, have you had occasion to hear the opinion of many of your Inspectors throughout the country, say in the last three years, say during the time that this circular has been in operation?—Since this circular has been in operation I have been in London, and have been very little in contact with my former colleagues, and so have had very little opportunity of learning what their own individual opinions on the subject may be.

169. And the same, of course, would not only apply to the Inspectors, but would also apply to the general class of teachers throughout the country?—I think so; yes.

170. I mean that you have not been in a position really?—No.

171. More properly, I should ask that question of an

Inspector instead of you, as you have necessarily been out of the way?—Quite. I have not been in direct contact with the schools or the Inspectors.

172. So you do not know really how this physical training development, if I may call it so, has pleased, or otherwise, both Inspectors and teachers throughout Scotland?—No, I have no direct information. Of course, I wish to make quite clear that these recent developments of drill in the Code are very new, two years back.

173. Yes, exactly?—And that any change in the school system of a country takes a very long time to work out. When you introduce a change such as this one year, you cannot expect to find very marked results or very marked evidence of it in any way for three or four years to come.

174. Now, following on the various questions that have been asked you by others, has it not occurred to you that, in promoting physical training in schools, you are doing something which may have an effect on the health. I know you have said that you have nothing to do with the health, but has it occurred to you that in bringing forward some kind of system of physical training, you are thereby tending in some measure to alter the health, either for good or for ill, of school children?—Certainly; and as I have said, I think that is a point upon which we require very thorough inquiry before we proceed further.

175. Then if you do understand it, may I ask has the attention of public health authorities, whether County Councils or their delegates, been called to it in any way?—By the Department?

176. Yes; I mean, do you not think that in making a change of this kind, something might be done in calling attention?—I think that very probably before any definite steps were taken in the way of extending the system of drill in schools, much communication with the local authorities of various kinds would be necessary.

177. Because I mean a local authority *quâ* local authority is not to be expected to know all the different rules that come out?—No, of course not.

178. And you quite grasp what I mean, that the mere fact of an extended physical training might require a great deal more nourishment; put it on that point that was raised by Mr. Fergusson, might require a great deal more nourishment in the children than they have hitherto had?—Yes, it is possible.

179. I mean you may sit still, write, do your figures, and so forth, without taking so much out of you, as if you have to go through a certain amount of physical exercise?—Yes, undoubtedly.

180. Whether training or drill, or any other kind?—Yes, except that I think we have sufficient evidence that the ordinary drill that is given in schools for the quarter of an hour or half an hour between classes is seldom of anything like an exhausting nature, so as to make any sensible difference in the food required.

181. Do you allude principally to schools in towns or schools in the country?—I think both, but principally to schools in the country.

182. I am so far right in saying that it is possible that a child in the country of a certain age, say ten years old, might have to walk very nearly six miles in the day?—Yes.

183. To and from its home?—Yes.

184. And over very rough roads sometimes, or no roads at all?—Yes, which would be a very excellent exercise itself.

185. Exactly. I mean if you put physical training to any extent on to the top of that, it must be of a very small nature—a slight nature?—I think so.

186. Principally, I may say, affecting the arms and the organs of the body, but not affecting the legs?—Principally affecting discipline; that is to say, the power of doing what they are told quickly and alertly.

187. That, of course, is in the country, but in the towns you have little doubt that the actual physical exercise is necessary?—I think it is probably necessary. That is a point, of course, on which inquiry requires to be made, but my own impression strongly is that it is necessary that if it is to be made compulsory, we must make sure that the children have a physique to bear it.

188. You mentioned swimming. That prevails in certain places. Do you know whether attention has ever been called to that by the Department, as recommending such a means of exercise as a physical training?—I do not think that we have. Of course, it is mentioned in the article of the Code which I read to you, as one of the forms of exercise which may be counted as part of the school time.

Drill: disciplinary effect good: desirable to have it in small quantities and between lessons: middle of day most advantageous time.

189. Then what is your own individual opinion as to the time of a school day in which the physical training should be given; should it be given when the children come early in the morning, before they begin their studies, or should it be given at the close of the day? Have you any definite opinion on that point?—The definite opinion I have is, that the value of drill, school drill, such as is usually given in schools for the purpose of discipline, is undoubted, and that the value can be obtained by comparatively short intervals of drill, and that it is not very essential when that time is taken. If it could be introduced between lessons, so much the better.

190. Then do you believe, as I do firmly, as an old soldier, that the mere fact of drill smartens the men up?—I think it does.

191. Then in that case, do you not think it ought to precede any other instruction?—Well, of course, children come in the morning with their minds pretty fresh and alert; they have come in from the open air.

192. You would give them a fillip up in the middle of the day?—The middle of the day is the more necessary time. On the other hand, I do not think late in the afternoon is a very advisable time, as the children are then more or less exhausted with the work of the day.

Leisure time: employment of children on Saturday afternoons unpopular; but not impracticable if reasonably supported.

193. And in the country districts, have a long walk before them?—Have a long walk before them home.

194. You mentioned employing children on Saturday afternoon: do you not think that would be very unpopular?—I am pretty certain it would.

195. I mean, do you not think it would be so unpopular as to be almost impossible to bring it about?—That I cannot say; it depends.

196. On penalties practically?—Well, of course, if there are penalties introduced, it will make the thing still more unpopular; but penalties are necessary. You are speaking of the compulsory drill from fourteen to eighteen?

197. Quite so?—Well, I think the public would have to have it put before them very clearly that there was, if not an absolute necessity for this form of discipline, at least a great advantage in it.

198. Put it another way—that this Commission, should it recommend such a course, would not wish to recommend anything which would be impracticable?—Quite.

199. In your opinion, supposing this Commission were to recommend such instruction on Saturday afternoon for such children, or boys and girls, whatever you like to call them, between fourteen and eighteen, would it be impracticable?—I do not think so, because I have great confidence in the reasonableness of the people of Scotland; and if the case is put before them well supported—if the law is instituted without rhyme or reason, they certainly would object; but if the Commission makes this recommendation, and puts before the public good grounds to support it, I think it would be well received in Scotland.

200. I was going to ask you a question on football, but it was asked before I got to it. I was going to ask you whether you thought that football was likely to improve the behaviour of children?—In my own experience in Edinburgh it did, but then it was played——

201. Under supervision?—Under supervision; and under pretty strict supervision, I should say.

202. In fact it was played as a healthy exercise?—As a healthy exercise.

203. And not something else?—Yes.

204. You mentioned early in your evidence some-

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thing about some Established Church College in Edinburgh. I think you also went on to say that there was no United Free College of the same kind, did you not?—The United Free Church College in Glasgow has apparently a Volunteer corps; I mean to say, rather asks its students to join a Volunteer corps.

Roman Catholic schools: drill a favourite subject; and adequately done.

205. May I ask, further, whether you have any knowledge of what is done by the Roman Catholics?—In the matter of drill?

206. Yes. I should rather like to know, generally speaking, how far you have any knowledge of Roman Catholic education altogether?—Well, so far as Scotland goes, I know it pretty well, and I should say that drill is rather a favourite subject with Roman Catholic schools, and is, on the whole, better done there, certainly for the younger children, than it is in the other schools. That is my impression.

207. Now, when you say they are, would you give the Commission some examples of the different schools you are talking of, first in the towns, and, perhaps, secondly in the country districts?—I am afraid I have not got a sufficiently definite——

208. I do not want anything definite, but how are they placed as a rule?—Such schools as the Catholic Schools of St Patrick, in the Cowgate, are very good specimens of what could be done in the school, in the playground, in the way of drill.

209. And in the country places?—In the country places? Oh, the Catholic School at Broxburn, I think, if I remember rightly, is a very good example.

210. In Haddington?—In Linlithgowshire.

211. Do you know any in the Highlands?—I have no knowledge as an Inspector in the Highlands.

212. Of course you would have in the Perthshire Highlands?—In the Perthshire Highlands; well, Roman Catholic Schools in Perth are very few.

213. It would depend on the population. In Dundee, for instance?—Oh, they are numerous there, but I have no knowledge of the Dundee schools.

214. You have no knowledge, in your present position, in receiving reports from Inspectors as to Roman Catholic schools?—Well, the reports, under ordinary circumstances, do not pass through my hands; they are dealt with by junior examiners in the office.

215. Exactly so. I mean your personal knowledge in the matter is really confined to what you knew yourself when in Scotland?—As an Inspector.

216. In those two places principally?—In those two places principally, but also to some extent in Aberdeen. The Aberdeen district, including Aberdeen and Kincardine.

217. But your general opinion is that the physical training in such Roman Catholic schools is adequately done?—At least as good on the average as it is in other schools.

218. The most important thing for the future is, how do you propose, or has it struck you to propose any way in which instructors or teachers should be taught any more than they are at present? I mean, that in the future, is it your opinion that teachers should have to have passed something before being eligible to become a teacher of a Board School?—They have at present to pass an examination to become a teacher. You are speaking specially of the subject of drill?

Teachers: further instruction; examined by an expert.

219. Oh, of course; of physical training?—Hitherto there has been no examination required, and all that we know is that a certain number of men have had a certain amount of instruction on the subject, but we have not required a special certificate of competence to teach drill from anybody. Now, the students going through the Training College will be specially examined as to their capacity to instruct in drill, and will get a special mention on the certificate that they are capable to instruct in drill.

220. Will they be examined, if you will allow me to say so, by an expert, or by a man of impartial mind?—They will be examined, this summer at all events, by Captain Armytage, Inspector of Military Gymnasia.

221. He is actually the military expert in the country?—Yes.

222. At the Normal Schools?—At the Normal Schools, yes. Of course, we rather propose that the instructor, being himself satisfactory to Captain Armytage, should by-and-bye determine to a large extent what the individual proficiency of the student is, and report it to him, leaving Captain Armytage, or any other special inspector who is employed, to make such further inquiries as he thinks necessary; but our point is, that the actual instructor, provided he is a competent and an honest man, is better able to say what the real ability of the student in the matter of teaching is, than an inspector can possibly ascertain from a single visit.

223. Now there is one more question, please. At present, does the training take place in the school or in the playground as a rule?—The drill is in schools; it varies very much.

224. I mean, is there anything laid down as to which it should be done in?—There is nothing laid down; we have no regulations.

225. I mean in fine weather, that it should be done out of doors?—I do not think we have expressly said it should be done anywhere.

226. Therefore you have not taken into consideration at all the size of the playgrounds. I rather wanted to get at that. Is there any uniform size of playgrounds laid down?—There are building regulations.

227. The reason I ask is, that if you go on to have extended order drill, you will require a certain amount of room?—I fancy such room as it would not be possible to find in an ordinary playground. It would have to be done in public parks or fields.

228. At the same time, a great deal could be done on the present playgrounds, or could be in different lines, and so on?—It could be, yes.

229. But that has not been mooted?—I do not think so.

230. Not the question of size of playgrounds?—No.

231. Is there any general rule as to the size of the playgrounds?—I believe there is something in the building regulations as to the size of playgrounds.

232. *By Sir Henry Craik.*—They have to be modified according to circumstances; about three-quarters of an acre, but we cannot insist upon that entirely.

233. *By the Chairman.*—No; I mean, if you are going on your ground to do anything of that kind, it might be advisable in new schools rather to encourage the idea of a bigger playground if you can?—Of course, in the denser parts of the town, where precisely these exercises are probably needed, it would be impossible to get anything like a large playground for each single school.

234. But, on the other hand, take such a part as the Cowgate of Edinburgh, they are within a hundred yards of the open ground of the Queen's Park.

235. *By Sir Henry Craik.*—With regard to this question of playgrounds, there is no objection under the Education Act to a School Board acquiring a field which should be common to several schools, even although not immediately attached to the premises?—I think not.

236. I do not think the Department would have any difficulty in sanctioning it. Then, with regard to inspection, our inspectors, as you explained, act upon the general experience they have gained, without being experts in particular subjects. The Department will endeavour to bring them into contact from time to time by paying visits in company with Captain Armytage or other expert?—I should think so. Yes.

237. With regard to the qualifications of the teachers who are to act as instructors, the Department has now begun the issue of certificates following these classes under Article 91 (d)?—Yes.

238. And these certificates are granted on the advice of the expert, and after a stipulated course of instruction?—Yes.

239. So that the teachers will have an opportunity of becoming specially qualified, and we will have also the

opportunity of knowing which of them have become specially qualified?—Yes. At present the certificate, or hitherto the certificate, certifies only to satisfactory attendance and progress; and, as I have said before, these classes are experimental, and, no doubt, we shall change the regulation on that subject, develop it, and get a more definite certificate as to what the man is really capable of.

240. *By the Hon. Thomas Cochrane.*—There is a very striking expression in your notes, in which you describe the pupils who may be already surfeited by years of squad drill. Could you give any explanation of what exactly that means, or how you arrive at it?—Well, one must speak from his impressions—from his experiences.

241. Yes?—But I have seen cases in which children, older children, went through their drill in a lazy, dissatisfied sort of way, and the explanation that occurred to me was that they had had too much of this sort of thing for many years.

242. Has any inquiry been made from the children themselves on the subject?—Well, I could not say. I do not remember any specific inquiry.

243. I can quite recognise the point that they may become surfeited with squad drill. I am very much in sympathy with what is your general line of encouraging a variety of exercises, but I should like to know from the children's point of view whether the dulness you refer to is due partly to the teacher, or whether it is due to the monotony of the drill?—I think very often it is due to the teacher, but I would not be prepared to exclude the other cause as well, namely, the monotony of the drill.

The witness withdrew.

Mr T. A. STEWART, LL.D., examined.

244. *By the Chairman.*—You are Senior Chief Inspector of Schools in Scotland?—Yes.

245. Well, I think, perhaps, it would be more convenient if you would just read what you have put before us, please, and then any question that may come up you will answer?—I have put this together from some notes which I hurriedly got together. I thought perhaps it might be of use. First of all, I have got what I call historical references.

At the time of the formation of the Volunteer corps (1859) interest was aroused in the physical training of youth, and some attempts were made to teach them military drill. But the experiment failed to be a success because—

1. The exercise was usually taken after school hours, or during play hours.

2. The drill was mechanical and uninteresting, and was conducted by non-commissioned officers who had served for twenty-one years or more in the army, and whose methods would not be tolerated nowadays. Since 1870 or so this training has died out and been replaced by gymnasia, where the teaching was given by ex-army instructors. The object was to make men stronger. The exercises were too severe for growing lads, and there was a tendency to produce acrobats. In 1884 a team of foreigners at the Health Exhibition, London, aroused much interest, and it was seen that a more suitable system of drill was desirable. The pioneers of the movement were Colonel Onslow, then Superintendent of the Military Gymnasium, Aldershot Colonel G. M. Fox, his second in command, and at present head; and Sergt.-Major Noakes, the chief instructor of the army; and Mr Alexander Alexander, superintendent of Liverpool Gymnasium.

The 'short service' system was introduced into the army about this time, and Colonel Onslow's system was found more suitable for young men, often mere boys, who joined the army.

About 1887 the National Physical Recreation Society was started, with its international competitions. The object was to supply gratuitously physical training for the children of the working classes, while teachers were trained in teams drawn from the larger towns.

Squad exercise, with musical drill, was a main feature.

The system was of a voluntary nature, and if not based entirely on physiological principles, several useful varieties of exercise were introduced which were free from the rigidity and monotony of military movements.

In Scotland, Aberdeen was the first town to take part in these international competitions.

Although nothing like a universal system of physical exercises was introduced till 1895, when it was included in the Code as a necessary element in education, the teaching of the subject in the North of Scotland at least has been the rule rather than the exception.

The opening of the Aberdeen Physical Training College in 1889, and the recognition of its certificates by the Scotch Education Department, gave a great impulse to the movement. Major Cruden, who pioneered it, was supported by a number of Aberdeen gentlemen, who took a personal interest in the subject. Teachers were trained, examined, and sent out to the schools fully qualified to give a thorough training in the subject.

Military drill of a sort was found in stray schools, *but it has never yet been a general success* in elementary schools. Carbines were sometimes procured to stimulate a flagging interest, and in some cases, as in Hutchesons' Boys' School, Glasgow, the personal enthusiasm of the drill instructor inflamed his pupils with an adventitious interest.

Military Drill *versus* Physical Exercises.— Military drill v. physical exercises.

(1) I am strongly of opinion that physical exercises should be regarded as the foundation of military drill. A very large amount of the advantage gained in the practice of military drill is secured by physical movements and evolutions.

Physical exercises are based on physiological considerations in connection with the laws of health. Military drill is, I understand, subservient to the exigencies of active service. It may be healthy and it may not. It is meant to make men good soldiers.

(2) I shall suppose, therefore, that in all schools a full course of physical exercises should be given, both to boys and girls, till they reach the age of fourteen or so, i.e., till they leave the elementary school. In the higher grade or secondary schools, boys might at this age be formed into a cadet corps, in which they might remain for three years, and then join the Volunteer corps. Some grant might be furnished as an encouragement. In New Zealand, so many rounds of ammunition and a small grant are allowed. In this way we should have a stepping-stone between the secondary schools and the Volunteer corps.

(3) Boys' Brigades.— Boys' Brigade.

These are very useful organisations, and do a deal of good in many ways to the boys, but it seems doubtful if *drill* is their strong point. I learn that few join the Volunteer corps, one of the reasons given being that they dislike to have to undergo the same drill a second time. It is probable also that, as their drill is sometimes of an amateurish nature, it will not compare favourably with that which is given to a cadet corps.

In Scotland, an attempt has been made to have a cadet corps at the Aberdeen Grammar School. Some difficulty has arisen regarding the costume.

In Glasgow, Kelvinside Academy, the High School, and the Academy have all formed corps. In Edinburgh, Fettes College and Merchiston Castle have corps. Cadet corps in Scotland.

At Glenalmond and Blairlodge there are two well-known cadet corps, which have competed at Bisley.

In the Training Colleges here—Church of Scotland and United Free Church—a company has been fully equipped. General Chapman expressed the highest opinion of their efficiency on a recent occasion.

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Scheme suggested.

Generally.—

(*a*) Physical exercises should be taught in all schools up to the age of fourteen, for the purpose of improving the pupil's health, developing his muscles—enabling him to hold himself up properly, and accustoming him to precision of movement and instantaneous obedience to the word of command.

(*b*) In every higher grade or secondary school, where pupils attend after the age of fourteen, I would have a cadet corps, and some similar evolutions in the way of marching, dancing, or games for the girls.

(*c*) It should be kept in view that *every* child—unless he is too delicate—should be exercised according to his needs and ability. Crack teams and spectacular displays have their advantages; but better to see a poor, sickly child performing an exercise, in however ungainly a manner, to add something to his physical strength, than to witness the perfect precision either of physical or military evolutions.

246. May I ask what is your district, or what districts are you familiar with as Inspector?—Well, I have been Chief Inspector in all the districts of Scotland.

247. What districts?—I have been Chief Inspector in the Northern division, in the Western division, and in the Southern division.

248. Northern, Western, and the Southern?—Yes. At the same time my own personal district has been confined to a limited portion of each of these areas.

249. And which is that?—My present district consists of the city of Edinburgh, Midlothian, and Linlithgow.

250. Then at the present time we will take your own district, the actual district that you are familiar with at the present moment. What would you say in answer to the question,—To what extent are physical exercises in some systematic form included in the curriculum of the schools?—Well, in the country schools, in all the schools I may say, they are reasonably included as part of the curriculum. More attention, of course, is given to them in the larger schools, where, as a rule, they have special drill instructors, whose efforts are seconded to a certain extent by the class teachers—a system which I highly approve of; but it may be said that the teaching of some portion of physical exercise is universal in my district.

Physical exercises: included as part of curriculum of all schools in districts.

251. And in the town part of it?—Yes, entirely so; in some cases military drill and swimming.

252. Well, I wanted to know to what extent is military drill taught; is it only in the towns?—I cannot say that military drill is taught at all in my district.

253. In any part of your district?—No, except in the Training Colleges to which I have referred.

254. And you mentioned swimming: is there any other form of systematic gymnastic exercise taught?—If you include gymnastics, we have twelve gymnasia in Edinburgh,—parallel bars, horses, rings, and so on.

255. That would only apply to Edinburgh; and any other big town—Haddington?—Haddington is not in my district.

256. What other big town is there? Edinburgh and Leith would be one?—Leith is not in my district either; it goes to the inspection of East Lothian.

257. What other towns besides Edinburgh have you in your district?—No town of particular size.

258. As to the country districts, there is no military drill you say, and nothing else but ordinary physical exercise?—Yes, and gymnastics, marching, and so on. Of course, physical drill is not confined to Swedish exercises and dumb-bells, or that sort of thing; they generally go in for a good deal of voluntary work. Marching, counter-marching, forming squares and so on in the drill class in the playground.

259. It is done in the playground?—In fine weather it is.

260. Is it done in the playground, or is it optional on the part of the teacher to take it where he likes?—There is no regulation on the subject.

261. Neither by you nor the School Board?—If we find they are exercising children in the playground in bad weather, we remonstrate with them very strongly. In Glasgow they have special gymnasia for the purpose. They have spent a very large sum—the School Board of Glasgow—in erecting proper gymnasia for conducting all these various exercises.

262. Then to what extent does musical drill prevail?—Musical drill is confined almost chiefly to the younger classes. We recognise it as an interesting element in the subject there. We are also quite aware that for absolute precision, drill without music is preferable; but one great advantage on the whole teaching on the subject is to make it attractive to children, and to make them regard it more as a piece of recreation than of actual work; and I think music helps to make it so, as well as to add to its general gracefulness—the æsthetic side of the subject.

263. There is a Code which was issued in 1899?—Yes.

264. In which this physical training, so far as it goes, appears?—Yes; it is necessary to have physical training.

265. I mean, according to that article in the Code?—Yes.

266. And what is your opinion in your district as to the general efficiency; do you find that it is well carried out?—It varies a good deal. If the teacher is at all an enthusiast, he teaches it well; if he is not, he teaches it as well as he can, so that we may be able to report favourably on it.

267. And then the grant that is given?—There is no special grant nowadays; it is all included in the general efficiency of the school. If we find it defective, we may say the whole grant may be refused, or some deduction may be made.

268. But you make a point, in your ordinary visitations, of taking that into full consideration?—Most distinctly. I consider it a most important part of school work.

269. *The* most important?—*A* most important.

270. Then, from your own knowledge, what would you say the effect is on the physique of children?—Oh, I should think it was most salutary in every way.

271. I mean you think it ought to be, but do you happen to know that it is so; have you any means of judging?—I can judge of the appearance of the children—the way they comport themselves.

272. You have no metric means of judging?—No.

273. No statistics, in fact?—Well, the only case I know is the High School in Edinburgh, where Dr Marshall has adopted the regular calendar expressly, and all the boys are measured and weighed from time to time; and if he finds a boy is falling off in weight, he makes inquiry as to how he has been doing his work.

274. Do you believe in that being a good thing?—To a certain extent.

275. If you believe it is such a good thing, have you ever reported in its favour; have you ever brought it to the notice of the superior authorities?—No, I have not. I am not sufficiently acquainted with the merits of the system—or the demerits.

276. Although it is a matter that comes before you in every visit that you pay?—Yes. But of course one can judge in a general rule of thumb way as to the advantage.

277. Quite so; I just want to ask, it has never occurred to you to ask or to bring forward anything?—Not in the case of the ordinary average school. I have never brought forward anything, if that is what your lordship wishes to know on the subject. I have never made any suggestion in my reports.

278. I suppose there is no reason why you should not bring forward anything that strikes you?—Certainly not; I am encouraged to do so always.

279. Full encouragement to do so?—Entirely.

280. Can you tell me whether there are any competitions in any schools or other institutions in your districts to encourage sports and games in the Board Schools?—Yes, the Board Schools all compete for a football cup given by the inspectors.

281. Where is this, please?—In Edinburgh.

282. Yes, in Edinburgh?—A number of schools compete for this cup every year, and it passes from school to school, as it is gained, on every occasion.

283. Is that under the authority of the School Board?—No; the School Board has nothing to do with it. It was originally, I believe, given by Mr Struthers when he was inspector, or a number of Inspectors agreed to present this trophy, and it is yearly competed for.

284. This football cup, is it played for only in one or in frequent games?—Frequent games.

285. Is there any supervision in any way?—Masters of the schools take a personal interest in it.

286. Each master accompanies his own school?—Yes.

287. What are the ages of the players?—Under fourteen.

288. Are they over or under fourteen?—Under fourteen.

289. That is to say, they are still actually at school?—Under fourteen; still at school. There may be a few older ones, I should not like to say there are not, but they are mostly *under* fourteen.

290. *By Sir Henry Craik.*—Of course we are not limited in attendance to fourteen?—Not at all. Very few do attend after fourteen, except in higher grade departments.

291. *By the Chairman.*—Another thing I wanted to ask you was in connection with physical training. Do you consider that, as a rule, playgrounds are large enough?—In the country they often are, but very seldom in the towns.

292. Have you ever represented anything about that?—In connection with physical drill?

293. Yes, in connection with the size of the playground?—Yes; I have frequently in Glasgow and Edinburgh remarked that there was little room in the playground, and suggested that a special building should be erected for the purpose, and that has been done in both cities in several cases.

294. In the country, in your district, so far as you are aware, you think the playground is large enough?—I should say it generally is.

295. As a rule?—Yes, I think so.

296. Then what opportunities are there now existing in your district, and to your knowledge, for children over fourteen. I mean, if there are none, say so, but if there are any——?—I was trying to think.

297. Try and let us know what they are?—We do not know exactly yet what the continuation schools are going to develop upon that subject.

298. No, but I want to know what is the actual state of things at present?—In the Edinburgh schools?

299. No, what opportunities there are for physical training for children over fourteen?—There are none in our own schools, as far as I am aware.

300. Not at the present moment?—No.

301. But it is possible there may be some before long, that is what you mean generally to say?—Yes, quite so.

302. Part of our inquiry is to find out the existing state of matters?—Yes, quite so.

303. And is that the same in schools under the Code and also secondary schools; the same thing at the present moment?—Well, of course secondary schools have got their gymnasia and so on, which the elementary schools have not

304. Gymnasia is most distinctly a part of physical training, and therefore in the case of secondary schools in your district such opportunities do exist at present?—Yes, in those that have got gymnasia, but not in the ordinary elementary school.

305. Then, in the case of children of both sexes over the age of thirteen, is there any difference made between the exercises of boys and the exercises of girls?—Yes.

306. I mean, do you lay yourselves out to see that there is a distinct difference?—Not necessarily, but if there is a satisfactory difference I take a note of it; if there is not, I suggest that there should be; that the girls should not be occupied with such heavy bells and clubs as the boys, and should rather go in for some more graceful evolutions, such as dancing, hoop, or fan drill.

307. But I mean about the age of thirteen or so, there is a distinct difference, and they are not training in the same way?—No.

307a. *By the Hon. Thomas Cochrane.*—I suppose you have had very great experience, have you not, as Inspector?—Since 1874—a quarter of a century.

Development of training since 1874: good results noticed.

308. You will have watched, then, the general development of some form of physical training or drill. I think it has taken effect since 1873; I think a first step was taken by the Scotch Education Code, was it not?—Yes, about that time.

309. You have noticed generally the effect, in your experience, since 1874 on the children?—Yes.

310. Of this increasing amount of physical training?—Yes.

311. What is the general impression you have come to as the result of it?—Well, my impression, not only in a general way, but from special instances I have had of it, is that the general health has been improved; that the children have been made smarter, brighter, and more obedient to the word of command. That, I think, is a very important lesson for them to learn, instantaneous obedience, and in some particular cases I have been informed by headmasters that delicate and sickly children, who received a judicious amount of drill, had developed appetites and become quite strong and healthy. And, if I might mention two particular cases—this same Colonel Cruden, to whom we have been referring, was a very delicate boy. His parents were advised to put him through a course of drill; and now not only is he a man in vigorous health, but he is a bit of an athlete himself. And one of his assistants, a lady, Miss Cruickshank, was a particularly delicate creature, but she is now thoroughly robust. She was a very delicate girl till she went through a similar course, and now she is one of his chief assistants, and appears to be in vigorous health, as far as an outsider, a non-expert, can judge.

312. From your general experience, you notice an improvement in the appearance and the alertness of the pupils generally?—Yes.

313. Is that due to a form of drill or to physical exercises; you differentiate between the two, I think?—Yes. I should not confine the result to any particular form of drill. I think, if they are put through a variety of exercises, especially if they are taught precision of movements and instantaneous obedience, and how to stand erect, use their hands and legs properly, that is all an education in itself, and is always thought to be so.

Drill and physical exercises: both desirable.

314. You would rather divide the two; there would be certain advantages gained from drill, such as precision and ready obedience?—Yes.

315. And from physical exercises, you would consider rather improved physique, and general health and appearance?—Precisely.

316. You think there is room for the two—a little drill to give obedience and discipline, and physical exercise to develop the physique of the children?—Precisely.

317. I see that in your report you say, 'the drill in 'the old days'—I think that was in 1874, when you were first Inspector—'was mechanical and uninterest-'ing'?—Yes.

318. Have you had any complaints from the children that they have found it uninteresting?—The children would not speak to me about it, but the teachers said they had great difficulty in getting them to take part in it. That was not perhaps the fault of the system of drill so much as the men who taught it. They were generally rather objectionable, retired non-commissioned officers. They had no interest in the children, and they knew nothing of them, and so on; but the whole thing was uninteresting—there was nothing to attract the children in any way.

319. Very mechanical?—Purely mechanical.

320. And repeating the same exercises over and over again?—Yes.

321. We can quite understand that. Now, do you think that, generally speaking, the manners of the children in Scotland have been improved by this

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system of training, or has it had no effect on their manners?—By manners, do you mean courtesy and politeness?

322. Courtesy and politeness?—Oh, I do not think it has had any connection with that; I do not see what the connection is.

Manners of children: no connection with system of training.

323. You think the general discipline would not have an effect upon the manners too?—If it simply means that the drill-sergeant insists upon them making a salute, I think that is mere——

324. I meant a wider courtesy?—I do not see any connection, to tell you the truth.

325. You appeared, towards the end of your evidence to indicate that you would rather see, I think, 'a 'poor, sickly child performing an exercise, in however 'ungainly a manner, to add something to his physical 'strength, than to witness the perfect precision either 'of physical or military evolutions.' Do you think that physical exercises you have seen have had an actual effect on sickly children?—Yes, if they are carefully administered; if the child is not asked to do too much—that is to say, if the child has not got sufficient exercise without it.

326. You think a wise caution should be exercised; you would not put all children through the same amount?—Certainly not.

Feeding: must be good.

327. Have you come across children who have been insufficiently fed to enable them to go through these exercises with advantage?—I should not allow that at all; I have often remarked in schools where drill has been gone through, 'All you want now is a plate of 'soup.'

328. A plate of soup would do them more good than an hour's drill?—The two might go together.

329. A quarter of an hour's drill?—Yes.

330. You regard the good feeding of the children as being very necessary in order to enable the physical exercises to have their proper effect?—Yes, entirely.

Games: cannot be organised to give pleasure.

331. One other point I should like to ask you, which is suggested to me by what you call the mechanical and uninteresting drill: do you think that some form of organised games would help to develop the physique of the children?—I do not quite see how a game can be organised so as to give any pleasure.

332. Well, I would rather put it in this way: it is suggested to me by so often driving through the streets of our Scotch towns, and seeing them full of the rising generation, who do not seem to be occupying themselves either in anything interesting to themselves or very useful; throwing stones, and running across the road in front of a horse that is being driven; whether there would be any way of interesting these children in games which would take them off the streets, and do them physical, and mental, and moral good?—I think it would be an excellent idea if the teachers were to arrange to meet them, say on a Saturday, in their playgrounds, if playgrounds were open, and they could teach them to play certain games properly.

333. What I had in my mind was suggested in a paragraph of Lord Balfour of Burleigh's memorandum, dated February 3rd, 1900, in which he says, 'he 'trusts that combinations may be formed in convenient 'centres by leading and public-spirited inhabitants,' and I believe that in some parts of England, I do not think it is done in Scotland, public-spirited inhabitants have supplied fives courts in unoccupied waste bits of land. They have made some little bits of alterations, levelled up the flooring, and supplied balls to the School Board children, and also footballs, and got local inhabitants who would take charge of these and give them out. Something of that sort would be in your mind, and would it be of any advantage?—I suppose it might.

334. Perhaps that is rather beyond the immediate scope of our inquiry. Do you find advantage from the swimming?—Oh yes, an excellent thing. We have five schools, I think, in Edinburgh that have swimming baths. These baths are confined to the schools that possess them with one exception, where the children of two neighbouring schools are allowed to participate in the advantage.

Swimming.

335. What schools are those?—Abbeyhill, Broughton, Bruntsfield, and Sciennes are the four that have swimming baths of their own, and another school has a small swimming bath.

336. Could you say how many children take lessons in swimming?—They have a succession of lessons each day, perhaps 30 or 40 at a time, the boys in the forenoon and the girls in the afternoon, as the case may be but the baths are in use every day, and the children like them very much.

337. You do not know how many take advantage of it?—No, I cannot give you the figures; I have not got them here; I could easily find them for you.

338. Do you see them swimming?—Yes, I frequently have seen them playing games—water polo and water football.

339. Enjoyed it thoroughly?—Enjoyed it thoroughly, but the blind children in the swimming bath are still more striking.

340. Have you carried your researches to this extent with these children you have seen enjoying themselves in swimming—have you noticed any improvement in their work?—I have never examined into individual cases at all.

341. That is a point I may suggest for inquiry?—Anything that tends to usefully react upon their intelligence.

342. That would be my impression; but I would like to have it verified by the actual experience gained?—I really could not speak upon that.

343. *By Sir Thomas Glen Coats.*—Mr Cochrane has elicited some information just now that I was going to ask, about this physical drill, whether it brightens the children up or not; made them more fit for their schooling?—I think so, if it is not overdone.

344. At what part of the day would you give physical training; at the beginning of the day or at the end, or between the lessons?—Oh, I think at the beginning, or immediately after the luncheon hour, because in the earlier hours of the day we always have the heavier portion of the work; in the forenoon or after luncheon, that is to say, arithmetic and grammar, these heavier branches; and I think it would be better to have their exercises immediately after the assembling, because the children are apt to get tired out—fagged.

345. Do you think an interlude of this school drill would brighten the child up, make him better fitted to continue his work?—I think not. I think the physical drill is a strain upon the mind as well as the lessons. I would not approve of physical drill following lesson work. I would rather have some easy work, like singing, because there is no doubt that physical drill involves mental effort.

346. Do you think that considerably more time could be given to physical drill than is given at present, without interfering with the teaching of the children?—Well, I am afraid not. The curriculum is so much overcrowded with essential subjects nowadays, that little more time could be spared, unless we took off the time from some other branch considered of less importance.

347. A case has come under my notice where children—girls—attending a half-time school, *i.e.*, attending on alternate days, and with certainly a larger staff than is generally provided in the ordinary Board Schools, were able to pass the same examinations, and gave an equally good result as regards their pass as the children in the Board Schools; that is why I asked you whether you thought that considerably more time could be given to physical drill, or to some other work, without interfering with the actual progress of the children?—Yes; but I expect the children to whom you refer have home advantages, and pick up their school lessons more readily than other children.

348. I do not think so. Of course, they have a regular attendance, that is ensured?—Are you talking of the same class of children?

349. I am talking of children attending the Ferguslie Thread Works, in Paisley?—Yes.

350. They are children just of the same class as

would be attending the Board School?—Yes; no better and no worse.

351. And why do they make so much better progress, then?—I do not know. They are at work one day; I suppose they come with a fresher mind to their work the second day.

352. They take the ordinary pass work, and they are quite abreast of the other children?—A good deal depends upon the children themselves, and their regular attendance. If the one class attends regularly, and the other does not, it is easily explained.

353. There is perfect attendance, of course, in this case?—Yes.

354. *By Sir Henry Craik.*—With regard to that question, you think there may be a difficulty in finding time; but is it the case that there is asserted to be a very large employment of children outside their school hours—children who are actually attending school?—Yes.

355. The ordinary time of attendance is five hours a day, leaving nineteen hours for food and sleep; that leaves a very large amount of leisure?—Yes.

356. Do you not think that some part of that, without a strain upon the child, and really preventing his getting into mischief, might be used for physical training?—Oh, certainly it would be much better that he should be employed in such exercise than that he should be employed in selling newspapers or running messages.

357. Or even running in the street?—Quite so, certainly.

358. Necessarily there must be many of those who can do nothing else but run about the streets for many hours of the day?—Yes.

Playground: no instance of common one provided for several schools: no objection unless by ratepayers.

359. Have you any instances in your district where a common playground for several schools is provided by the School Board?—Not for several schools; but the other day the School Board came to terms with the Town Council to open a certain number of their playgrounds, as an experiment, for their children to play in after hours.

360. But there is nothing to prevent the School Board getting hold of a field in the neighbourhood of a town, which would be common to all the schools?—Not if the ratepayers did not object; it would be an excellent thing, I think.

361. There is nothing preventing it in the Act of Parliament?—Nothing at all.

362. And if they could be brought out of the streets and into that place there might be time found for some sort of physical exercises?—Yes, certainly.

Feeding of children in town schools: wrong kind of food.

363. Have you ever made any inquiry as to the feeding of the children in the town schools?—In town schools. No, not to any extent. I have ascertained that in the winter time a number were fed in the soup kitchen, and I have once or twice changed my interval on the day of inspection to allow these children to go and have their dinners, which are all handed out to them.

364. I quite understand that; but I meant rather in the methods pursued in their feeding. Have you seen any change in the course of your experience in the food that the children generally get?—I cannot tell what they get; only when I have asked them what they had for breakfast, they say 'Tea.' I say, 'You should not drink tea at all; you should take porridge and milk.'

365. Tea is the prevailing thing nowadays?—Yes, because it saves trouble. I have warned them.

366. Have you seen any difference or contrast in that respect between town and country?—I cannot say I have. The tendency in the town is to drink tea. In the country I suppose they have a better chance of getting milk. They say they cannot get good milk in the town; they cannot afford to buy it.

367. It is not altogether want of food, but perhaps wrong food that is the evil?—Yes, very often, especially among the Irish population in Glasgow; particularly I have been struck with the diseased appearance of the children—rickets and so on; simply because they are badly fed.

368. If you made such a suggestion, and the Department were to attempt to carry it out by having any statistics or measurements or ascertained fact in regard to the health of the children, do you think that that would be received very readily by the parents, or would it be objected to?—I do not think they would object to it, because they probably would not understand what it was all about; but of course an expert would be required for such an investigation. The inspectors are not in a position to deal with it.

Health of children: investigation by expert: objections by parents unlikely.

369. And the School Boards have not, so far as you know, made any inquiry?—No.

370. Into eyesight, for instance?—That is a point I have urged once or twice, both in Glasgow and Edinburgh—that the School Boards should have some expert or set of experts to visit the various schools, and to make inquiry into the eyesight and hearing of the various children, and to make recommendations accordingly; in fact, last night I was reading an article in the *British Medical Journal* by Mr Cheatle, who had examined 1000 children, and 50 per cent. were suffering from various forms of auricular disease;—which confirms me in the opinion that School Boards would do a most valuable thing in having some expert to visit these schools.

371. You think there would be no rational objection to such an arrangement if adopted?—The local doctor might say that this was interfering with his prerogative.

372. We could neglect that if the parents did not raise an objection?—I do not think they would object.

Drill: its bearing on conduct and tone: relation to mental improvement.

373. With regard to the uses of this drill, you think that it has no connection with the general bearing and conduct. But using these words as rather wider than mere manners, do you not think it has an influence?—I do think it has a most close connection with the general bearing and tone in regard to standing erect and occupying a proper attitude, and so on, and also instantaneous obedience to drill and precision of movement. I regard it as all tone to a certain extent; but I could not make out, in regard to Mr Cochrane's question, any absolute connection between politeness, which I understand to be more an innate feature, innate courtesy, which you cannot teach by any form of drill.

374. *By the Hon. Thomas Cochrane.*—I think everyone notices how polite, for instance, a soldier or a policeman very often is, largely the result, I think, of drill and discipline?—Is that not rather abstract politeness?

375. No, I do not think so; it becomes deeper than that?—It is a habit, of course.

376. It is a consciousness of the duty they owe to their neighbours?—That is their influence, but external and abstract; they do not take off their cap because they wish to show respect, but because they have been told to do so.

377. I was not thinking so much of that. There is a roughness often noticeable about juniors in Scotland that I think you would be aware of—roughness of manner?—Yes.

378. *By Sir Henry Craik.*—Would you not agree with these words that Lord Balfour used in the circular we issued, that these exercises—the military drill, as well as physical exercises—are 'pre-eminently useful 'in developing those habits of comradeship, of responsi- 'bility and of individual resource, which are of supreme 'importance, not only to the nation as a whole, but to 'the individual pupil. Indirectly they bring the in- 'dividual into contact with the principles which lie at 'the foundation of national defence, and they bring 'home to him his duties and responsibilities as a 'citizen of the Empire, and develop in him also,' as it goes on to say, 'a certain self-respect and a respect 'for others.' Do you not think that there is all that to be got out of something in the form of military drill?—Well, there is a strong sense of duty and obedience.

379. But is not that a very necessary element?—Most distinctly.

380. And an element that, perhaps, is a little failing in the present generation?—Yes; I quite agree.

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384. Then, besides that, there are certain forms of these physical exercises, especially if they went into the direction of practice in extended drill or in shooting, which would also develop the faculties of observation?—Yes.

385. And tend to a mental improvement as well as a physical and moral improvement?—Yes, no doubt.

Continuation Classes: physical exercises made more interesting: not compulsory.

386. With regard to the children over school age, you spoke in your evidence of the children in the secondary schools: have you not seen these physical exercises in your continuation classes?—Not to any great extent.

387. They are carried on in some places in Edinburgh?—Yes, but they are only slightly; and the difficulty there, Sir Henry, is that the younger children do not, of course, I think, do much in that way. The older lads form squads; but many of them have been occupied all day in various exercises, and are pretty well exhausted, but even then they seem to take an interest in the subject. But I think the thing might be made very much more interesting if physical exercises were dropped out at that stage, and something in the military direction introduced.

388. But do you not think it important that there is a considerable amount of leisure in the life of almost all boys between fourteen and, say, seventeen or eighteen years of age, which they are at a loss to use properly?—Yes.

389. Should you think that it might not be made compulsory, to have a form of some sort of drill or form of physical exercise during that period?—I do not think the compulsory idea is a good one, because it would make them take a dislike to it, and then you would never get them to join the Volunteer force, to go over the same mechanical routine again.

390. But at present the proportion without compulsion of those between fourteen and eighteen who come under any form of training of that sort is very small?—Very small.

391. The voluntary element has so far failed to secure a large number?—Yes. Well, no particular effort has been made in continuation schools to develop the subject; yet, I think, much more might be done than has been done in that direction.

392. But you would be afraid of making it compulsory?—Unless you make it attractive at the same time in some way, I would rather have some other inducement I think.

Teachers, ordinary staff of school should be qualified to impart instruction in physical exercises.

393. The only other subject I wished to ask you about was, your impression of the special teacher for these subjects as compared with the ordinary schoolmaster; which do you think is best?—I think a combination in this way—that there certainly should be a special teacher, to put the teachers upon proper lines, and to see that they conduct their classes properly; but I think every teacher should be in a position to drill his or her own class, and the drill should not be confined to any special visit or visits made by a special teacher, but, as a useful variety in the day's occupation, that the class teachers should be in a position to carry out the ordinary forms of drill, each for his own class.

394. You think that that leads to the best results?—I do not mean to say that the class teacher would ever drill a class so well as the specialist will; but, at the same time, it means that a larger amount of drill will be given, and possibly because the class teacher is better acquainted with the characters and dispositions of the children, they may be better trained than if they were simply taught by an outsider.

395. Have you in your eye men who have gone through a course of physical training, or merely the usual teacher who has come out from the Training College, and has no special qualifications of this kind?—I certainly prefer the one who has special training, as in the case of Aberdeen, in the Physical Training College there. I do not think that the ordinary teacher can learn a sufficient amount of drill from the specialist to be able to teach the children. I think they should all receive a special training in drill at some Training College.

396. Then that implies that any teacher should be able to take up this work?—Certainly.

397. And take it as a part of his ordinary professional work?—Yes. Of course, as you know, all our Training Colleges are teaching it—it is distinctly well taught there.

398. Then he must be able to carry it on if he moves from one school to another? He must be able to carry with him the physical instruction?—Yes, certainly.

Uniform system principle underlies all.

399. Then that implies, does it not, that the physical instruction should be according to a uniform system—otherwise, he might come into a school where a different system was pursued?—Yes; but I do not think that there is so much difference between the systems as to cause so much trouble. They are all based on the same principles; the details are different, so far as I know.

400. But I mean if he did not follow, for example, the War Office drill-book, it would be confusing to his pupils and to the rest of his staff?—Yes; but I have no doubt that at the Training College he would get some insight into the various methods—he ought to, at least.

401. On the whole, you are inclined not to have a special teacher, but to have the ordinary staff of the school doing the work?—Yes, or both. As I have said, the specialist to guide these, but certainly the teachers should be able to drill their own classes.

Leisure of children, police, offences, desirability of interfering.

402. Have you ever studied the question of the number of children who, out of our schools, get into the hands of the police, and the reasons for that?—No; I cannot say I have.

403. You have not turned your attention specially to this circular under the Youthful Offenders Act that we issued lately?—Yes; I got it and read it; but I have not been able to do anything in that direction yet.

404. That was Circular 347?—Yes; I have the circular. In Edinburgh, of course they say the impression is that it is not the children but the parents who are to blame; that the children would be willing to attend school regularly, but the parents compel them to remain at home by going messages and selling newspapers and so on, to bring money to them.

405. Exactly; and if we compulsorily laid hold of a certain part of that leisure so employed, we would probably interfere with a right of the parent—to a right that at present you think he abuses?—Yes, distinctly; I quite agree with that.

Teachers drill instructors preferable outside experts.

406. *By Mr Shaw Stewart.*—One or two more questions on the point Sir Henry Craik has been asking you about—the teachers being drill instructors. I suppose you would agree with the view that drill, if not effectively carried out, is worse than nothing?—Yes, certainly.

407. You feel pretty confident that it would be possible to make all teachers efficient instructors of drill?—Not in the highest sense; but then they would be able to do something.

408. Sufficient to make it interesting for the children?—Oh, I think so, in a small school; perhaps not in the large schools, where you expect more knowledge and experience.

409. But I suppose there would be an alternative way of teaching drill in Board Schools, by having expert instructors going round?—Yes.

410. One instructor for a certain number of schools?—That is frequently done, in the country especially.

411. But you would say that one system is as good as the other. Would you not say that the latter system would be more likely to be conducive to interesting and instructive drill?—Certainly, if the teachers are properly qualified to teach it.

412. Certainly; I am supposing certified drill instructors?—Certainly; I would much prefer that the teachers themselves should teach a branch like drill, assuming that they are competent to do so.

413. Why would you prefer that?—Because, for one thing, they know the children; and in the second place, they keep order; and some of these peripatetic drill instructors neither know the children nor can they

keep order. I think one teacher should teach as many branches as possible to his or her own children; it gives more unity to the school. I would avoid visiting-masters altogether, except in the case of necessary experts.

414. Would you?—Yes.

415. Just one question about boys joining the Volunteers. You said that compulsory drill to older boys might become unpopular, and might deter them from joining the Volunteers, because they would have to go through certain ground over again. Might that not be obviated by some form of certificate being issued to boys proficient in drill, which would exempt them from some of the more elementary drill when they join the Volunteers?—If such a certificate were accepted, of course, I think that would solve the difficulty.

416. That, of course, would rest upon the Volunteer authorities?—That would certainly remove the difficulty, so far as I can see.

417. *By Mr Alston.*—To refer to what Mr Shaw Stewart has said just now, of course that certificate would be from the school?—The drill instructor.

418. The drill instructor of the school?—Of the school, yes.

419. It would be available as far as it went, but the Adjutant of the regiment would still have to insist upon the examination of this boy before he passed him into the ranks. The certificate might not come up to his standard, his requirements?—Quite so.

420. I quite agree that that was a stumbling-block; the fact that the War Office insisted upon sixty recruit drills for a boy who had already mastered his drills?—Quite so.

421. That brings me to ask another question upon one of your remarks here, 'Physical exercises are 'based on physiological considerations in connection 'with the laws of health. Military drill is, I under-'stand, subservient to the exigencies of active service. But it is surely available for a great many other things than the exigencies of active service. Does it not bring out all this obedience and respect to which Mr Cochrane referred. It is not a mere matter of 'mechanical use and wont.' Is there not something in military drill under proper supervision—complete military drill—that would bring out these qualifications?—Of course I meant to say nothing against military drill at all. That was written in a hurry. Military drill is not based directly upon any consideration of the laws of health or upon any general moral conceptions. That is the sort of idea I had in my mind; but, at the same time, I am quite willing to allow, of course, that military drill involves a very large portion of what may be called physical drill, with all those advantages; and it is only when specialised that I regard the subject as we were saying, 'military drill.'

422. But it not only has all the advantages of the physical drill, but it is plus something else which the mere physical drill will not give at all?—Quite so.

423. With military formation, military commands, military supervision, military discipline; you introduce a new element altogether?—Yes, quite so.

424. Then you remark further down, at the end of the page, as to some organisations in which a deal of good is done to boys, but it is doubtful if drill is their strong point. Have you any reason for pronouncing that judgment upon these organisations?—Well, I have heard it said frequently that Boys' Brigade drill is not the essential element that is taken into consideration; the social element enters, the element of conduct which drill may affect, also church connection too. Drill in these brigades is not so effective generally as in a cadet corps, say.

425. I am afraid that is rather too general?—I daresay.

426. Because, while the Boys' Brigade is a religious institution, drill and discipline is its strong point?—Indeed.

427. Drill and discipline, and, with the Red Book in hand, not a mere pretence of drill, but the actual drill itself is there. It, of course, depends on the capacity of the officer. We must have officers who can drill effectively, and happily we have many who can. I can vouch for the fact that a Boys' Brigade company has been, in the matter of new requirements and alterations of the drill-book, in advance of Volunteer corps. Indeed, many of the Boys' Brigade companies drill better than the Volunteer corps; so that, other things being equal, drill is their strong point?—Yes.

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428. Then it certainly produces, as Mr Cochrane brought out, the qualities arising from discipline, self-respect, *esprit de corps*, smartness, orderliness, obedience. We have been asking questions about the class teacher. You think it would be better that the class teacher should be the instructor in drill?—If properly qualified.

429. But you would make him properly qualified?—Certainly.

430. That is, you would drill him to the required standard?—Yes, quite so.

431. And then use his qualification as a class teacher, with due control over his boys, so as to produce the best results?—Yes, exactly.

Physical training and drill.

432. *By Mr Fergusson.*—I am afraid I have not quite got into my head, the difference you make between drill and physical training. I rather understood at the beginning that you said you gave a preference to physical training, and you include in physical training a certain amount of marching and counter-marching, as, I think, you expressed it?—Yes.

433. That you prefer physical exercises?—Up to a certain point.

434. I mean for children up to fourteen?—Yes, quite so.

435. With a certain amount of drill, but you do not want any elaborate movements?—Quite so.

436. Then, as to its being popular with the children, do you find any difference? Do the children like the drill, or do they like physical exercises?—Oh, the physical exercises.

437. And the gymnasium?—Yes.

438. And the drills they get a little tired of?—Well, they do sometimes, I think.

439. There was another thing, looking at it in that way, that we need not be so concerned about the size of the playground, if we are not going into any more military manœuvres, because the physical exercises do not take up much room?—It depends on whether the classes are individually exercised, or a large number of classes are taken together, in which case you require a large space.

440. Even if they were all taken together it would require a much larger space, if they were all marched up and down?—Yes.

441. There is a certain amount of discipline done—of marching—in the class-rooms. The children in a well-ordered school are all under word of command. They march in, they take their places at the word of command, they get up and file out. That is all in the way of discipline?—Yes, certainly.

442. Then you laid considerable stress on health. May I take it that you think more notice ought to be paid to health in several respects than is paid at present?—Yes; I think it would be an improvement and an advantage.

Food: system of parent-paying for soup supplied to children desirable.

443. But would you be prepared to say that some official notice should be taken of the question of giving children food? It is left at present, you say, to voluntary effort?—Yes; I do not think it was ever proposed officially that the children should be fed.

444. Have you ever considered the question of doing it and making the parents pay?—Yes; a halfpenny a day, or something.

445. You have never considered that?—In the country I have. They get a basin of soup, for which the parents pay a halfpenny.

446. You think that is a good thing?—Distinctly a good thing.

447. More particularly if you are to give them physical training?—Yes. Teachers have told me that whenever this soup was introduced, the children were as bright in the afternoon as they were in the forenoon, fit for another hour or two's work.

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449. That was my experience: I wanted you to confirm it?—Yes.

Inspection: school inspectors qualified by experience to inspect.

450. As to the inspection of the work by His Majesty's Inspectors, do you think that it is best that the drill should be inspected by the school Inspectors, or would you have special expert military men or others who are accustomed to drill and physical exercises to examine in these subjects?—I think that an Inspector, although not an expert himself, might by experience learn sufficient of the subject to be able to say whether physical exercises are conducted with precision and success or not; and if military drill is to be carried on to any extent, it would be desirable to have some military expert to pronounce an opinion.

451. In physical exercises it makes a great deal of difference whether it is done in precisely the right way or not?—Yes.

452. Nobody but an expert can form a very good estimate of that, can he?—An expert is a man of experience. If he has had the experience of a quarter of a century he must have picked up something about it, or else he is very foolish.

453. And about sewing as well?—Quite so.

Teachers: ordinary staff should teach physical training with occasional supervision.

454. As to the special teacher. I rather gather that you want to make the schoolmaster the principal teacher of physical exercises, with some supervision. I will put it to you what is done in my experience, and ask if this is what you mean, that the teaching staff should do all the ordinary drill and physical training at different hours through the week, and, say once a week, for one hour, a gymnastic expert should come to the school to supervise—it is like an examination every week—to supervise the work that is being done. He points out the weak places; he teaches not only the children but the teachers?—Yes.

455. That is the sort of system you would approve of?—Yes; an excellent idea.

456. Just one other question. We have been talking about the strain on the children; but what about the strain on the teachers if they are to be given all this extra work, and they are also to teach the children games and everything. I quite admit it is an excellent thing, but we are making a large claim upon them surely if this is to be done. Is there no way in which they might be relieved of some of the detail work that they have to do; some of these tables and returns that they have to make. Could we not relieve them in some way?—Well, I do not draw up the tables and returns. Sir Henry Craik can tell us whether or not they can be relieved from them. For the children, it is a relief to have change of occupation.

457. Is there an overcrowded curriculum?—There are so many subjects, really, in education; you cannot leave any of them out, otherwise people say you are neglecting that subject. We cannot confine ourselves to one or two subjects. It is a very severe strain on the teacher to be expected to do all these things in and out of school?—Yes. I quite agree with you.

458. *By Professor Oyston.*—Have you ever known an injury from the system of physical drill as at present conducted?—No, I have never heard of a case; at least, I have no recollection of such a case.

459. Therefore you do not consider that in the system, as at present worked, medical inspection of the delicate children you refer to, is required?—Oh, I approved, in my former remarks, of medical inspection generally; not only with regard to ear and eye diseases, but to the general appearance of the child.

460. And if a more extensive system of physical training and drill were introduced, do you consider that a special set of medical inspectors would be required to prevent injury to the children?—The same inspection, I suppose; to report upon all the children in a school.

461. A medical man?—Yes.

462. But you have at present none, as I understand?—No. None that I have heard of.

463. Therefore some such system would require to be introduced simultaneously?—Yes. It was talked of in Glasgow some years ago; it was recommended very strongly there.

464. At present you find no difficulty in the drill of female children, such as to require the adoption of a special dress?—No. In secondary schools they usually have a special dress, but not in the ordinary elementary schools.

465. And if a more extensive system of physical training could be introduced, could it be done without a special dress for the children?—Certainly.

466. I should like to know who was the author of the paper in the *Medical Journal* about 50 per cent. of the children?—Mr Cheatle.

467. *By the Chairman.*—I suppose you can say so as well as anybody else. It is perfectly in the power of the Local Authority of Health, which is the District Committee in Scotland, to order the medical authority to inspect every school?—I should think so, but I should prefer Sir Henry Craik to answer that question.

468. I am talking of nothing to do with this occasion?—I do not see why he should not.

469. You have never known a medical officer of health inspect a school, have you?—Not for that purpose; but on a recent occasion I found the sanitary arrangements all wrong, and I found they would do nothing. That is a different story, but I got the medical officer of health to work with me then, and he has co-operated with me.

470. Not for the actual animal question—the children question; it was the other kind of animals?—Yes.

The witness withdrew.

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471. *By the Chairman.*—It is very good of you to come here, and I am afraid you have been rather hurried in what you have had to prepare, have you not?—Well, I have thought over the subject a good deal before.

472. I think it would be better if you were to speak to the Commission from your notes?—I have no notes, but if there is any line upon which it would be more convenient for me to speak, I would follow that line; or if you have got a series of questions there upon which you wish information, I could give, as far as possible, information upon them.

473. Well, the system of drill, physical training, etc., in vogue; its general effect upon the physique of children up to fifteen, then also from fourteen to eighteen?—Upon that I can give no definite information.

474. You are not sufficiently acquainted with what goes on?—I am not sufficiently acquainted with it.

475. Secondly, the system originally intended for adults and for children, what the effect of that would be. That you can hardly say, but as to the general effect on the growth and development of children that is likely to result from physical training, upon that you will be able to say something?—Yes; the point that struck me first of all when I began to think over the subject was the necessity for it, because, although I I made no personal observations upon the subject, I think one may take it for granted that the physique of the rank and file in this country has undergone a deterioration.

476. By this country do you mean England or Great Britain, or do you mean everywhere?—I mean England, Scotland, and Ireland, the United Kingdoms, from which the recruits are drawn for the army, though probably this has occurred to a greater extent in England and Wales than in Ireland. My reasons for believing this are the statements which have been made, and which have not so far been called in question, that (1) the standard for recruits has been lowered; (2) notwithstanding the lowering of the standard, a number of men who have come forward have been rejected; and (3) even of those who have

been admitted, a number are spending a much larger proportion of time in hospital than ought to be the case.

477. May I ask 'time in hospital,' from what cause principally?—No; I was only taking the general account as given by others of their spending time in hospital, more especially as indicating a general want of stamina. Of course, if one were to enter into the causes of the men spending a long time in hospital, we should cover too much ground.

478. I have a certain amount of knowledge of military hospital life. I merely wanted to know whether it was from want of development, or something of that kind. I mean, you cannot go on a list of hospital patients?—No; that is quite true.

479. And I should further ask whether, in your opinion, such a want of development and such weakness in that way is attributable to any racial cause, or very largely so; and if so, whether an amount of physical training would in any way help them, or could in any way help them?—Well, I think it is not the racial cause, inasmuch as the race is to a great extent the same. I mean the race is the same as it was in the time of the Napoleonic wars, so I think that we cannot attribute any failure to come up to the standard to change in the race, and that we must rather look for the cause in the altered habits of the individuals, and possibly to the draining away by emigration of those who are fitted both mentally and physically for war. It is the energetic men and the strong men who emigrate, and the weaker and less energetic are often left behind, but, in addition to that, there has been a tendency for the population to aggregate in large centres, in cities, and to leave the country districts. Life in cities is not so favourable to the development of the individual as life in the country, taking it on the whole, and the confinement, the want of fresh air, and the want of exercise are certainly things that tend to deteriorate the health. Of course, on the other hand, we may say that men coming to towns earn larger wages, and get better fed; and although this may tend to a certain extent, yet it does not seem altogether to make up for the other deteriorating influences upon the progeny of the men who come from the country, so that there is a tendency for them to become poorer, weaker, and, it is stated upon what I believe to be fairly good grounds, that they tend really to die out in cities after perhaps the third generation. If we are to keep our men up to the standard, we must try and counteract these things. We cannot prevent emigration; we cannot prevent the congregation of people in cities, and if they are to come to cities, as they almost certainly will do, we must try to provide something in the city to counterbalance the effect of congregating together, the want of exercise, and the want of fresh air. Efforts have been made so far to provide fresh air by parks, but there is a great want of providing anything like the exercise that children get in the country, and I believe that a good deal of the depreciation is due to the want of the opportunity of getting exercise amongst children in large towns.

480. May I ask what your opinion is about the idea of children, instead of being in the open air, being shut up in all the brightest and best parts of the day in what is very often a very stuffy school?—Objectionable. I believe if school hours were distinctly shortened and the hours of play lengthened, provided the children could be occupied fairly during these hours of play, they would do very much better work; and I may say that in Germany, from what I have heard lately, they are beginning to recognise the disadvantage of long continued strain upon the children, so that instead of giving them lengthy hours together of mental work they are giving them a quarter of an hour interval at the end of each hour, that is, a quarter of an hour interval spent in play, or at least in some sort of exercise that the child regards as comparative play; and more especially, I think, it is very advisable that in such intervals the child should be allowed to shout and scream as much as it likes. Children take an enormous amount of pleasure in simply shouting and yelling. It is very disagreeable for their neighbours, but it is awfully good for the child. It is the kind of exercise that allows the child to develop its lungs, and if we can introduce exercises that will develop the lungs, we will not only make it fit for everything it attempts in after life, but we shall probably do a great deal to abolish what many men are so anxious to abolish now, the curse of consumption. At the present time there is an attempt to abolish consumption which is a one-sided one. We are directing our attention chiefly to the germs of consumption, and trying to abolish them, but we have not been paying the attention we might do, although we are beginning to do so, to the soil upon which those germs have to fall, and upon which they grow—to the human body. It is now known that if a person is perfectly healthy he does not take consumption even when exposed to germs; that in consumptive hospitals the attendants as a rule—in fact the attendants with very few exceptions—do not take consumption, because they are healthy. If you bring a weakened person into contact with an affected person it is very probable he will catch the disease and die from it, but if the person in attendance on the consumptive is perfectly healthy, there is very little chance of him or her getting the disease, so that if we can by proper exercises develop the child's lungs and develop its circulation, develop its limbs generally, we shall lessen the tendency to consumption, and how far we may lessen the tendency to other diseases it is difficult to say. We shall not abolish them, but we may greatly lessen them. Now it is not amongst the upper classes that there is the want of physical exercise, because amongst the upper classes there is perhaps too much physical exercise. At Oxford and Cambridge, and at public schools, perhaps too much time is devoted to physical exercises, and there is no doubt that individuals are, if anything, coming above the old standards, because again and again the records have been broken in almost every department of physical exercise, so that it is quite clear that those who have the opportunities for exercise are not deteriorated, that they are coming, if anything, above the old standard. It is those who do not have these opportunities who are deteriorated, and it is to supply to them who have not got it in sufficient measure the exercise that some of the upper classes have got in too great measure, that one would like to introduce some such system as this.

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proper exercises most important.

481. Then, as to the matter of food, I suppose you are very much of opinion that if extra physical exercises are given, extra food should be insisted upon?—Yes.

Food: exercises if introduced will produce appetite; amount of food regulated thereby.

482. Even though the amount of food which is given would be more than the children of what we call the lower classes are, as a rule, accustomed to in their daily life. It is quite correct, I think, to say that there is a tremendous difference in the amount of food that is consumed by one class and another class?—Oh, yes; but I do not know that we can insist upon the fact. I rather think that if we insist upon exercise, the children demand the food; and if we give children exercise, we will thereby give them an appetite, and the appetite will regulate the amount of food the child takes.

483. Then it is perhaps questionable, particularly as a loaf gets dearer, how they will get that food, is it not, in your opinion; if we do urge an increase of physical training in ordinary schools for children, we should equally urge some increase in the way of food. Do the two things not go together? Is it fair to urge the one without urging the other?—Yes; I think it is. I think it is fair to urge the exercise without the food, because I think that the exercise will regulate the question of food by itself. I do not think it is necessary to take up the question of food.

484. *By Professor Ogston.*—I should very much like if you would allow me to ask Sir Lauder's opinion upon one or two points. As a medical man, do you think that physical development, physical superiority, would favour brain development. Do you think that it would tend to improve the intellect of the individual if his physical system were developed by training?—I do. Shall I say why? It is not necessary to say why.

Brain development promoted by physical development.

485. As we are dealing mostly with children, can

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you help us in the matter of statistics of the weight and height of healthy children. Do such exist in any reliable form?—That I cannot help you with, but I can tell you, I think, who can. I think you will get that from Dr Kerr, who is now the medical officer of the London School Board, and who, while he was at Bradford, I think, took a great deal of interest in the height and weight of healthy children, and in the effect of exercise upon them. A good deal of work has been done also upon the growth of children, by Professor Henry Bowditch of Harvard, and if you are anxious for it I could get someone to abstract his papers.

486. Then you do not know whether any statistics of disease amongst children exist either in England or in Scotland?—That I cannot tell you.

Medical inspection advisable.

487. Have you had any experience of injury to children from physical training, say the production of rupture or the favouring of heart disease?—Heart disease I have seen.

488. To a considerable extent?—No; I cannot tell you, because I have not any statistics on the subject. I can only say that I have had cases come before me of boys who had overstrained their hearts.

489. And do you think you should give the Commission any cautions in regard to that from the result of your experience?—I think, certainly, that while exercise is exceedingly good, over-exercise is exceedingly bad.

490. Has it come under your observation that children with ear disease, perforated drums, have got serious brain disease from swimming?—Yes; at least from having their heads under water.

491. And do you therefore think that a medical inspection of children is at present a necessity?—Certainly, very advisable. I do not know that I should say absolutely necessary, but very advisable.

492. Would it become a necessity if there was an extended system of physical training introduced into the schools in Scotland, including swimming drill and physical exercises?

493. *By the Chairman.*—Perhaps you would allow me to add, bearing in mind, that in the case of soldiers they are constantly under medical superintendence, and sailors too?—I think they ought to be under medical supervision, to avoid any risk of mischief being done.

494. *By Professor Ogston.*—Then the last question in which your experience might help us is this: Do the urban children differ in their standard of health and resistance from the country children?—My experience does not help there, but that question was gone into by Dr Cantlie, who wrote a book upon the subject.

495. Dr James Cantlie?—Dr James Cantlie.

496. This corollary to it, whether urban children need drill more than country children, you also would not give an opinion upon?—No, I cannot give it absolutely. I should think that they would need much more, because they do not have the same opportunity for exercise. The country children take a lot of exercise of their own accord. They have got larger scope for outdoor exercise of all sorts.

Food: amount varies for every child.

497. *By Mr Fergusson.*—On the question of food, you said, I think, that it was very desirable that children, especially if they were being given physical exercise, should be as well fed as possible, and you would not have this Commission have anything to do with the food question. You thought, if physical training created an appetite, the child would find food somewhere?—Yes; I think so.

498. But where?—I should think simply where it got it at present. The father and mother of the child would provide the food.

499. But the father and mother are not there, you know. Take a child that leaves home. I am thinking more particularly of country schools, and in Scotland a child has to breakfast at seven o'clock or so, and goes to school, and is not back at home until, perhaps, five o'clock in the evening. Now, we in the school are creating this craving for food. Where is the food to come from? There is no father and mother for several miles?—No; the child takes it with it.

500. Yes; the child has food, of course, if it has it with it?

501. I suppose you have not had much experience of what children in country districts in Scotland do bring to school with them?—Oh, yes; I have had my own experience—a bottle of milk and bread and cheese.

502. Certainly; but I am afraid they do not always fare so well as that. But that I would consider very well fed. Then that is all they want?—Yes.

503. If they are not getting that—if they are not being well fed, it would be almost necessary to take some steps to see that they got as much as a bottle of milk and some bread and butter, or something of that sort?—Yes; but it seems to me that the parents would provide that.

504. Certainly. I was not suggesting it should be given them. Let me put it in this way, that it would be a good thing, as far as possible, to make arrangements so that this craving might be supplied in some way or another?—Oh, surely.

505. You do not think that food is immaterial?—Oh, very far from it. I perhaps have not really understood what you meant. I have no doubt whatever that if the child gets more exercise, it will want more food, but the amount of extra food that it will want cannot be arbitrarily determined.

506. No?—Because it varies for every child as it does for every man. It is well known, for example, that you can get much more work out of certain races than you can out of others upon a definite amount of food, and that some of those races are really winning in the struggle for existence because they are the cheapest machines. The Italian, perhaps, in Europe, and the Chinaman in Asia, are probably about the cheapest machines going. They can do more work upon a given amount of food than others who want a very large amount of food and do not do anything like so much work.

Health: children sitting in wet clothing; more physical training will make children better able to resist adverse conditions.

507. While we are on the question of health, and while very desirable for educational purposes to increase the health of your children, did it ever occur to you, for instance, that children coming and sitting for hours in wet clothing is not conducive to health?—Oh, far from it.

508. Then, when we want to make men healthier, would it not be desirable to try and deal with that matter in some way?—Yes, undoubtedly. The only reason I did not take that up at all is, that it did not seem to come quite within the scope of the physical training.

509. Except, of course, if you are going to give them physical training, you must attend more to the health; therefore, in health, the question more or less comes in?—It is quite true, but that would come in the ordinary course of things. Practically, if you are going to introduce physical training, that is really of less importance than it is at present, because, by increasing the strength of children by physical training, you make them more able to resist the effects of such adverse conditions as sitting in wet clothes

510. *By Professor Ogston.*—Would it be convenient for you to abstract for the Commission the opinions of Bowditch of Harvard upon the growth of children?—Yes, I will do it.

511. You, I think, offered to do so?—Yes, but for the health I think Dr Kerr should be applied to.

512. Might I ask who Dr Kerr is?—Dr Kerr is now the Medical Officer of the London School Board, and he was formerly Medical Officer to the Bradford School Board. I believe he has just recently been appointed.

Town and country: former from a condition to endure privation quicker mental powers.

513. *By Mr Alston.*—You spoke about the condition of the populous towns being inferior, of course, to that of the country. I remember a recruiting officer remarking that he got his best recruits from London. Would he be justified in saying that with regard to the physical condition of the men?—No; but he would be quite justified in saying that in another respect. The same thing was found in the American war. It was not the country boys who, I think, stood the greatest privations, but the town boys. The reason, I think, is simple enough; that the town boys are all the descendants of country boys, and after one or two

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generations, if they are not all dead, they are either so far depressed in physique that they do not get into the army, or if they do get into the army they may be the survivors of the strongest men, and so the best recruits may come from the towns, because they are simply the survivors of strong men—all the descendants of strong men in favourable circumstances; and although, when put in adverse circumstances, they may not be up to the same mark as country boys, yet when you come to treat the whole lot of them with the poor food, privations, and so on, the recruits got from the towns may be even better than those got from the country. The general impression, I fancy, hitherto has been that it was the country bumpkin who made the best soldier on account of his physical strength, not on account of his endurance. I was struck with the remark, and wanted to know whether it was on the ground of his physical condition that he was warranted in making it. It is not so much the physical strength; it is rather the power of enduring privation, and going on under adverse circumstances, and then in addition to that, you have, as a rule, the quicker mental powers.

514. Probably one of the examples of Kipling's 'Soldiers Three'?—That is all.

515. Then again, you spoke of the shouting and screaming and running and jumping as being necessities of child life. Is there not a remarkable display of that in the street?—Yes; but at the same time if a man is tired, has been sitting a long time, the way in which he rests himself most thoroughly is to yawn. It is to expand his lungs to the utmost, and the child, as a rule, does not yawn so much. It simply opens its mouth and yells, and that is the child's equivalent, I think, for the man's yawning.

516. Then would you introduce that yelling at a certain period of the day?—Yes.

517. And would you do it *versus* physical drill?—Oh no, as an accompaniment to physical drill, for the purpose of developing the child's lungs.

518. Probably your object would be attained by supervising games?—To a certain extent, though not entirely, by supervising games, but you should have a certain amount of regular physical drill as well, because in games you get only certain muscles exercised, whereas in physical drill you would get regular systematic development of the body.

519. With reference to the point Mr Fergusson has brought out about the feeding, of course, as you know, in large towns the tendency of the parent is to hand over his child to the public, and make them feed and clothe it, and in every way care for it. If you increase the physical exercises you must increase the food, and someone must provide?—Yes.

520. *By Sir Henry Craik.*—At what period of life do you think that this physical exercise is most required? In the early years of school life, from five to fourteen, or older?—Between five and fourteen, I think.

521. Of course there is a great waste after that, from fourteen to eighteen, of energy that is misused?—A great deal.

522. What you think is most urgent is to improve the physical exercises during the actual school life of the boy before he gets to fourteen?—I think so.

523. You spoke of shortening school hours. What do you think is a fair school day for a boy of that age, from six or seven to thirteen or fourteen?—I think, if you were to work them, really work them, for four hours, you would get as much out of them as they could stand.

524. We do not give them more than two hours in the morning and two hours in the afternoon. Then if we add to that, you would add physical exercise beyond that?—But I should take off so much from those hours; I should do as the Germans do.

525. Yes; interrupt them?—I should not only interrupt, but I should cut off. I should make the three-quarters of an hour equivalent to the whole hour, and I believe that by giving them an interval of a quarter of an hour you would make the three-quarters of an hour quite equal in time for learning.

526. That is to say, about three hours a day as the ordinary teaching?—Yes.

527. And you think that the physical exercises would make a greater strain upon the organisation than the brain work, and will raise the appetite?—I think so.

528. More than the brain work?—More than the brain work, I think.

529. Exhaust the whole physique more?—Well, it is simply a question of combustion, or chiefly a question of combustion. The muscles require more energy than the brain. Although the work turned out by the brain is of a higher quality, yet the muscles require more actual energy. It is very like the comparison between a clock and a windmill.

Physical exercises: useful in later years, but more important in early years: both sexes require them.

530. That is, the physical exercises, I take it, in your view, would be useful in the later years, but, from a physical point of view, more important in the early years?—Yes.

531. One more question. Do you draw any distinction between the sexes as regards the necessity of such physical exercises?—No.

532. You think they both require it?—They both require it.

533. And, as a national necessity, it does equally embrace them both?—Equally, I think, and some would say perhaps even more necessary for girls than for boys.

534. Is your own experience that the effect of it is wanted more in the boys?—No. That is not my own experience, but that is the opinion come to by Professor Mosso, who came over here to investigate the whole question of physical education both for boys and girls, in order to report to the Italian government.

535. *By the Chairman.*—When did he come over?—It was, I think, about twelve or fifteen years ago. I could easily get the date.

536. *By Sir Henry Craik.*—I should have thought that, to a certain extent in the case of boys, the object of physical exercises was to develop the muscles; in the case of girls, rather to prevent the disorder of the nerves, to prevent hysterical or nervous illness?—Yes, that is true; but then, on the other hand, that is one of the questions into which Professor Mosso has gone. He has written a little book, quite a small pamphlet, about it, on the physical development of women, and he discusses the necessity of the muscular development of women in regard to child-bearing.

537. *By the Hon. Thomas Cochrane.*—I hardly like to ask you, with regard to the information you have given us, but you are evidently a sympathiser with child life. I should like just to ask you. You have mentioned, I think, less work and more play?—Yes.

538. And I think the general tone of your evidence rather points in the direction of games and amusements for the children than the daily squad drill?—Surely.

Games preferable to squad drill.

539. You would rather that their physical exercises should not be too mechanical?—Certainly.

540. Might I ask you, have your investigations led you to examine any particular systems of physical exercises?—I have not gone thoroughly into the systems from the point of view of development especially, but from the medical point of view I have studied the subject of physical exercises to a considerable extent, and I am quite sure some of the most useful exercises are those of simply moving the arms without apparatus, waving the arms about, and extension in various directions from the shoulders.

Physical exercises: the most simple are the most beneficial.

541. Something in the nature of what is associated with the name of Sandow?—Yes; Sandow's method is a good one, because most athletes get hypertrophy of the heart.

542. *By the Chairman.*—You say Sandow's is a good system?—Sandow's is a good system. Most athletes get hypertrophy of the heart, and some years ago Sandow exhibited himself and allowed medical men to examine him. I thought that I should certainly find hypertrophy in any man who was lifting such enormous weights as he had been, and I found that he had not got it, and his heart was a regular, steady, normal heart, and I came to the conclusion that if he

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were able to do such extraordinary feats of strength without getting hypertrophy of the heart, his system must be good.

545. *By the Hon. Thomas Cochrane.*—In instituting any system in connection with School Boards, would it be a good thing, do you think, to have some expert, someone like Mr Sandow, to start the system, or to advise upon a system in the Board Schools?—I think it would; I do not know whether Sandow would be the best.

546. I am merely mentioning him as a man who had a system—some expert?—Surely. Of course most of those things have been worked out very thoroughly in Sweden. Ling was the first man who worked it out, and he had a number of successors, and there are a great number of books for physical exercises for boys and girls, published both in Germany and France; not only in Sweden, but translated in Germany and France; and if it is of any use, I have got a number of these books, and I should be very glad to send them down here for any one to look at.

547. In connection with this, do you happen to know Professor Montzi, a professor of physical culture?—No; I do not know him.

548. A Swede?—No.

549. May I ask you, have you seen the effects of these different systems, these Swedish and French and German systems in operation?—No.

550. You could not, from your experience, tell us the appearance of the children, whether they seem to have benefited by these systems?—No; I have had no opportunity of studying children.

Physique of nation deteriorating: standard for recruits lowered; possibly owing to getting dregs of classes.

551. Now, as to this most interesting but rather alarming statement that you made in evidence, that the whole physique of the nation seemed to be showing a certain amount of deterioration?—Except in the upper classes, and the reasons—the data—I took secondhand. The data that I have got, and which I have seen in periodicals, are, that the standard has been lowered. That I believe to be the fact. The physical standard for recruits has been lowered. Notwithstanding the lowering, a number of the men who come up as recruits are unable to pass into the army, because they do not come up to the standard. All those who do come up to the standard physically, I mean as regards height and size, are not up to the standard of proper health, because, after getting in, they break down, and are unfit for the work of a campaign.

552. I believe there is no doubt that is so, but I hardly like even suggesting it to you, but might it be possible that we are now taking a greater number of recruits from the same classes, and also that wages in civilian life are higher, and the pay of the army has not increased for some forty or fifty years until quite recently. It has not had any effect yet, and that, therefore, you only get the dregs of classes, instead of getting better developed ones?—That might be so.

553. It is not quite sufficient, this unsupported testimony that the physique has deteriorated?—I should think that the man who could give you the best information about that would be Colonel Notter, the principal medical officer at Aldershot.

554. And then, again, the improvements in the standards of the public schools; you base that partly on the fact that in athletics they have broken what are commonly called records?—Yes.

555. Is that due altogether to an improvement of the general standard, or is that due to a specialising of individuals—a better system of training, for example?—Well, that is hard to say. I took it simply that the record had been broken all round. It gets broken all round, excepting possibly the high jump. That jump does not get much higher, but in almost everything else they seem to be breaking the record; and although, as you say, it might be simply specialising of individuals, yet there are so many of them that one might almost take them as a class.

556. You form the conclusion that, on the whole, public school boys are better now than they used to be?—Yes.

557. And that in the upper classes the physique is rather improving than deteriorating?—Yes.

558. But you are still under the impression that in the lower classes it is sadly falling off?—It is sadly falling off; yes.

559. And that some system of physical training might have an advantage on the general health of the nation?—Yes.

The witness withdrew.

Adjourned.

SECOND DAY.

Wednesday, 30th April 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.
Sir THOMAS GLEN COATS, Bart.
Sir HENRY CRAIK, K.C.B.
Mr M. H. SHAW STEWART, M.P.
Mr J. C. ALSTON.
Mr J. B. FERGUSSON
Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr ALEXANDER WALKER, examined.

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560. *By the Chairman*—You are Inspector at present in the Aberdeen district, are you not?—I am—Aberdeen and Kincardine.

561. And how long have you been there?—Five and a half years.

562. Previous to that you were?—I was nearly twenty-seven years in Perthshire.

563. Perthshire?—Well, when I say Perthshire, the Perth schools were the only ones that I inspected all that time, but I was in Fife, and Forfar, and Kinross and Clackmannan. I began with the schools in connection with the Church of Scotland, real or nominal, in the whole of Fife, and the whole of Forfar, and the greater part of Perthshire. Then, after the passing of the Act, my district was confined to all the schools in Perthshire, and Kinross and Clackmannan. Then, as

the schools began to come in after the passing of the Act, my district was restricted to Perthshire, and again, after a little, the part of Perthshire adjacent to Stirling was attached to that district.

564. In the paper which you sent in you say, you wish first of all to say something about the rise and progress of physical drill in Perthshire?—I think I should say something about that.

565. Before you go on to say that, will you tell us something about what it is in Perthshire?—Well, when I began in Perthshire I may say that drill was non-existent, there was very little even of school drill. The children were allowed to come into the school anyhow and with any amount of noise until the work actually began, and to rush out in the same manner after the work was done. We tried as much as possible to introduce school drill, so as to get orderly coming in and going out, and an orderly changing of classes. Well, that had some effect, and it went on to some extent, and then, by-and-bye, when the towns began to find out that it was cheaper to build one school for 1200 children, than to build, say, four schools for 300, or six schools for 200—they generally attached to these buildings a janitor's house, and the janitor was very often a retired soldier, a retired sergeant that is, and he took charge of the children while they were in the playground, and, naturally, they availed themselves of his services to give them some drill. This drill consisted always of the old-fashioned military drill—marching and forming fours, and turnings, and changing rank, and so on, along with two or three of the extension motions that were prevalent at that time. Well, the marching was a very good thing; it is one of the very best exercises a child can have. The extension motions were good in their way, but they generally consisted of three minutes' minute instructions as to the position of the thumb with regard to the seam of the trousers, and so on, and three seconds of the motion on the part of the scholars, and then they waited another three minutes until they got their next order, and then they went on again. Well, practically, that amounted to very little. It was good in its way, but it did not give the boys the continuous exercise that they require. Sometimes the sergeant would say, after giving them their orders and getting the thing started, 'Continue the practice,' and they would continue the practice for perhaps half a dozen times, and then they went on to the next one. Well, that was the rule generally. Those sergeants had very little control over the boys, and they did not keep order, and they occasionally got into barrack-yard language with them, which was not very good either for the scholars or anybody else. That was the sort of drill that prevailed.

566. That was only in towns, was it?—That was mostly in towns.

567. Mostly in towns?—I may say it was confined to the towns.

568. In the case of Perth, did that include the Academy and Sharp's Institution?—I had not anything to do officially with either of them. I had only the elementary schools, and they had them in the big schools. In the Caledonian Road School there was a sergeant, and then they had one in Balhousie School and one in Craigie School. The janitors there were sergeants, and they had a man employed, Sergeant Smith, to go round the other schools they had there for drill. The only exception to that form of drill I had was in Blairgowrie. There was a Sergeant Wilson there, who had learned a good deal of the new drill somewhere — at Aldershot perhaps — I do not know where, and he put them through a good many exercises of a better kind—the new motions, a little leg practice and arm practice, and he had them down on their faces occasionally to stretch their limbs, and that I considered to be of importance in many ways, although some of the exercises I thought were not quite suitable for boys; they were more for grown men. Then, towards the year 1888, perhaps—I cannot give the exact year—a Mr Davidson came to Perth to be instructor in physical exercises. He brought in an altogether new sort of thing. He brought in musical drill, and he put the boys and the girls, from the youngest to the oldest, through their exercises to musical accompaniment, and I considered that a very great improvement indeed. It is the sort of thing that prevails now in all our elementary schools, and I consider it to be a very great improvement upon the old thing.

Physical exercises: Aberdeenshire; Cruden's system; in town and country schools.

569. Then when you went to Aberdeenshire, what did you find?—Well, when I went to Aberdeenshire I found that Colonel Cruden's system of physical exercises was in pretty universal use. He has kept up this for, I suppose, something like thirteen years now, and he trains a great number.

570. Was this mainly in the town, or in the country districts?—In the town.

571. Entirely in the town?—He is an Aberdeen advocate. He is an advocate in the town, one of a firm of lawyers there; but he has made a hobby of this physical exercise, and he set up a physical training college about 1888, I think, and trains people, and sends them out to the schools wherever they are required to drill the children, and that prevails in all the schools in Aberdeen. They are supplied—a good many of them—by his drill-sergeants, men and women. And then he has classes in the summer time for teachers. He takes them by relays, gives them a fortnight's drill at a time. Teachers from the country were always very willing and very ready to avail themselves of that, and willing to spend a part of their vacation in that way; and they come in larger and larger numbers, and they go back to their schools more or less prepared to put their scholars through the same kind of drill. When I went to Aberdeen the work was pretty much confined to the Aberdeen county, but he has extended it now to Edinburgh and Glasgow, where he holds summer classes for teachers, and he has trained up a great many teachers in that way, and they go through his drill, which I think a very good form of drill for children.

572. How many schools are there in Aberdeen?—In the town of Aberdeen there are, counting all sorts, forty elementary schools.

573. And to some extent does drill of this kind prevail in all of them?—In all the schools.

574. In the town?—In the town and in the country.

575. And in the country too?—Oh, yes. Drill is now universal, because the Department took up the subject very warmly, and they advocated the thing, and in 1896, I think it was, put into the Code that the highest grant for discipline would not be awarded unless drill—some sort of physical drill—formed a part of the curriculum, and that, of course, set them all agoing. They all set agoing some drill of some sort, and that made it universal in the schools.

Inspection.

576. Do you examine these schools at your inspections?—Oh, yes. I see them drill.

577. Do you find any difficulty in making yourself a drill examiner?—Oh, no. I don't put them through it myself. I see the thing done.

578. I mean, you never had any experience of drill yourself?—No.

579. But from practice, you have become sufficiently well acquainted?—I can judge of drill just as I can judge of sewing. I could not sew a seam, but I have examined so many thousand specimens of sewing that I know when it is well done or ill done, and it is pretty much the same with drill.

Instruction given at various times, and in various amounts.

580. There is one thing I should like to know: what is the usual custom as to the time of day at which this instruction is given?—Well, it varies very much. It is according as they find time, and there is, perhaps, a little complaint to be made on that head. I think they trust rather too much to the half hour a week or so that the drill instructor from outside gives, instead of making it part of the daily routine of the school.

581. Who has the control of that—the School Board or the teacher?—Practically, the teacher. He makes out his time-table, but I think the thing is left rather too much to the outsiders. Instead of say half an hour a week, I should prefer men or women from outside coming to drill the scholars; they should get from their

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own teachers ten minutes in the forenoon, ten minutes in the afternoon, or ten minutes at any time, should they seem to be required.

582. Then do I understand you that the instruction is only given, say, once a week, not every day?—In certain cases it may be only once a week, but when the teacher overtakes it, it is taken every day at the time it occurs in the time-table. There is generally a time set apart for it daily.

583. But sometimes it is missed?—Sometimes it is missed.

584. And held over until the professional arrives on the scene?—Yes, very often it is; but I think the kind of exercise is well suited to that. The kind of exercise that Colonel Cruden's people put them through is what I think they want, that is to say, the furthering of the pupils' health. What you want is to expand their chests, and to develop their breathing power, and in that way to send more blood through their bodies, so as to keep up the heat, and to keep up the growth, and to keep up the nourishment. That is what you want.

585. Now, you have no statistics as to the children's health in any way, or development?—No, I have not. That is a great defect in our school system. There ought to be a regular medical inspection of schools, and everything connected with them.

Medical inspection necessary.

586. May I ask whether you have ever recommended such a development?—Yes.

587. You have?—Yes, I have in my reports—my general reports to the Department. I have recommended that there should be regular medical supervision of the schools and the children. In the first place, it is a regular thing, every autumn and every spring, to have a sweep of epidemics all over the district. They take measles, whooping-cough, mumps, diphtheria and scarlet fever, and all these abominations, and I think a great deal of that might be prevented with medical supervision. Things are not so bad as they were, because we visit schools now at irregular intervals. They do not know when we are coming, and they try to keep things shipshape all round, in case we should come down upon them and find them lacking. In the old days it was very often the custom for the privies to be cleaned out just the day before we arrived for the year, and the school got its annual wash the day before, so they kept us marching over wet floors reeking with ammonia. They had been cleaned only once a year, and they required a strong man to stand it.

588. But you quite understand that people cannot always live at high pressure?—Well, the Department tries its best to make us do it, I know.

589. You consider that an improvement in the children's health, or the health that has been exhibited to you as inspector, has resulted from these surprise visits?—I think so, because they keep the place clean—they keep the place cleaner. It is regularly swept out now and regularly washed, at least much more regularly than before, and the outside premises are kept in a better state, but still they would be the better for the medical supervision.

590. Then, putting it shortly, you rather seem to say that what is going on at present is sufficient, in your opinion, as regards the physical training?—Well perhaps not exactly; there is this lacking in it, that a good many of the teachers do the thing by rote. They have no proper knowledge of the physiological ground of the thing, and they may give them exercises that are not suitable to the children all the time, or exercises that are not quite suitable for some of the children, and they do not know which it is suitable for and which it is not.

System: Cruden's manual used: same exercises given to boys and girls up to fourteen.

591. There is no common system; there is no manual, as it were?—Oh yes, there is this manual.

592. And do they stick to it?—Yes.

593. What manual is it?—It is Major Cruden's manual that is used all through.

594. But is not that manual drawn up with regard to different ages, and so forth?—Of course there are exercises appropriate to this department of the school, exercises for the other, and so forth.

595. Do you make a distinction as to what exercises you give to girls, and what you give to boys?—No, I do not think it is at all necessary up to the age of fourteen.

596. Up to the age of fourteen?—I think the exercises are quite suitable for both of them, and the exercises should be such as have nothing to do with endurance; indeed, they should not be exercises to promote endurance; they should be exercises involving speed, involving as many of the muscles as you can bring into operation for a short time, with intervals of rest.

Swimming Aberd

597. Is there any practice, in the town of Aberdeen, say, in swimming?—A little.

598. In connection with schools?—In connection with schools, yes. There was an exhibition of that last Friday night for the scholars of one of the schools in Aberdeen, the Hanover Street School, down at the Public Baths. There are no baths attached to any of the schools in Aberdeen, but the swimming baths are quite handy. There was a swimming exhibition there. I could not go myself, but one of my men went, and he was very much pleased with what he saw. I should very much like to see that extended.

599. Is that for both sexes?—Yes; I have no objection to that for both sexes, girls as well as boys. It is quite suitable for girls as well as boys. The display at the exhibition went on very well. There was swimming, diving, life-saving, and so on. It was very successful, and I should like to see that extended to all scholars.

Physi traini those fourte eveni —gyr physi milita desira

600. I should like to have your opinion on physical training of those over the age of fourteen—between the age of fourteen and eighteen?—Oh yes; then, of course, you require to modify the thing when they come to that age. Up to fourteen there is very little development of muscle. Muscle is not, as I understand, well developed up to the age of fourteen, and the physical forces do not tend towards the development of muscle, but after that age you can begin to draw upon muscle more, and at that age I think gymnastics should be introduced to a considerable extent—gymnastics along with the muscular drill, and the elements of military drill, if you choose, at that age.

601. Do you think there would be any difficulty in bringing that about, with those who have left school considering themselves emancipated?—I do not think so.

602. Not in towns?—Not in towns.

603. But what about the country?—They are quite willing to crowd into these places in towns, but, I think, it is more for the physical drill and the gymnastics and the military drill that they come in. I do not think they are altogether very fond of the military drill, it is the other thing that attracts them. I should very much like to see that extended to the country. Some of the population there get plenty of exercise in walking, no doubt; but they get into a lounging habit of body, and they do not know what to do with themselves at night, and if evening classes for gymnastics and physical drill could be instituted in the country, it would be a great advantage, I think.

604. But still, from your practical knowledge, you know perfectly well that a great many of the boys, at the age of fourteen, who leave school, go to farms; those who remain in the country and work—and a day at the plough and carting and so forth is rather severe work—and they are in the habit of going to bed about eight o'clock at night?—Yes.

605. Simply being tired out. How would you suggest anything further for lads like that? It is not at all uncommon, in your experience, that boys are at once put to farm work?—I suppose not; but it is also not uncommon that these plough lads roam the country at night from this farmhouse to that farmhouse, rousing out the servant maids.

606. Or even going into towns on bicycles?—I should think that happens in towns too; but I do not think they are so tired out at eight o'clock at night, or six or seven at night, as to prevent them attending evening classes. It would be of infinite benefit to them, to set them up, to get them out of that lounging habit that they have.

607. Then, as regards the town, I suppose it is the same in Aberdeen as elsewhere, that Saturday is a holiday, is it not?—Saturday is a half-holiday.

608. Only a half-holiday?—You are speaking of the schools; a whole holiday for the schools; a half-holiday for the work-people.

609. Do you imagine the children would do better on holidays if they were given some physical training instead of spending it running about the streets, and practically doing nothing?—Well, I do not think they would like interfering with their Saturday holiday.

610. Possibly not, but I mean as regards their own benefit, would it be to their benefit or not?—Undoubtedly, it would be to their benefit, but I do not think you could interfere to that extent with their individual liberty.

611. You do not think that anything in the way of physical exercises—I will not specify them particularly—would be so popular as to suit them better than simply running wild on Saturdays in the streets?—I doubt it very much.

612. You doubt it yourself?—I doubt it.

613. *By Sir Henry Craik.*—Have you found any cases of objection by parents to their children taking part in drill?—No.

614. With regard to the medical supervision, do you mean that there should be medical supervision of premises or of the children—of the individual children?—Of both.

615. You would have a medical inspection of the children?—I would, just at stated intervals.

616. And you would have that under the School Board or under the Department?—Oh, I should say the School Board, but they would likely look to the Department to help them with the expense of it to some extent.

617. Do you think there would be any objection on the part of parents to such examination?—I do not think so.

618. Or to the taking of statistics?—I do not think there would be any objection.

619. Have you found swimming practised in any of the seaboard villages in Kincardineshire?—No, nothing; I do not think the School Boards have taken it up anywhere except in Aberdeen.

620. And in these seaboard villages the children very often cannot swim?—The children very often cannot swim.

621. Although there are more opportunities?—There are more opportunities, yes, but you find that sailors generally cannot swim. They think it better to be drowned at once than have a struggle.

622. Are you aware of any cases of continuation classes under the Continuation Class Code where physical instruction is taken up in Aberdeen?—Oh yes, there are several of them, in fact long ago I had several classes of that kind in Perthshire after the international gymnastic contests came on. The young men in several of the towns in Perthshire formed classes. There was one in Alyth, one in Blairgowrie, and one in Dunkeld. There was, I think, more than one in Perth where they went through a regular course of gymnastics on parallel bars, and jumping and so forth, ropes and ladders and trapezes, with a view of preparing themselves for these contests between the big towns, and that I think was of very great use to these young men; it kept them out of mischief and braced them up.

623. And are such classes in operation in Aberdeen now?—There are a whole lot of Boys' Brigades. There is a Boys' Brigade in the town of Aberdeen, with some ten or a dozen companies.

624. But they have not brought any of those classes under the Continuation Code?—Oh, yes, they have. You paid grants last year for three or four of them. There was a Company No. 4, Company No. 5, Company No. 7. They went through physical drill and gymnastics, and as the Code requires a second subject, their second subject was ambulance drill. They got their two subjects in that way I think, and they got the grant on that score. I forget whether there were three or four of them altogether, but there were a good many companies.

625. Under the present Code?—Yes, under the present Code; and I sent in to report one of these classes the other night. They go through their drill with very great spirit; but, of course, the sort of uniform they wear is an attraction. They mainly go for the physical exercises and gymnastics. They are of more attraction to them than the military drill, although it, perhaps, is of as much use.

626. You think that anything like compulsory attendance at those Continuation Classes would be resented?—I think it would.

627. Of course, it is usual, in continental countries, even if the Evening Continuation Classes might be for physical instruction drill?—I do not think we are ready for compulsion in this country.

628. There is no doubt that it is a very important time in the life of the boys—fourteen to eighteen?—Oh, undoubtedly.

629. And a great deal of mischief is done?—Undoubtedly, if you get hold of the boys at that age, and keep them occupied in the evenings, it would be of immense service, both to themselves and the country.

630. Although public opinion would not be prepared for it, you think the benefit would be very great?—The benefit would be very great; but I do not think we have got that length in this country.

631. *By Sir Thomas Coats.*—In regard to the drill or physical exercises, I understand you to say that you consider it would be inadvisable to give children under fourteen years of age gymnastics, that is, practice on the bars and ropes?—Yes.

632. You think it would not be advisable?—No. I do not think it would be advisable; their muscles are not ready for it.

Physical drill: now taken in all classes: desirable at short times.

633. Do all the children in the school get physical drill?—They do.

634. From the youngest up?—From the youngest up; from the infants up to the oldest class.

635. Then do you consider it would be advisable to devote more time to physical drill than is at present given. I mean to say, could you take a certain portion of time off what is now given to lessons, and give it to physical drill, without interfering with the training of the child mentally, with advantage to its body?—Yes. I should be glad to take it at intervals of a few minutes all through the day.

636. At short times?—At short times.

Games: no system. Compulsory games not advisable for young children.

637. Then do you find, with regard to games, are games practised much in the Board Schools?—Oh, yes.

638. I mean to say regularly. Is there any system of games?—No, I do not think there is any system of games. They are left to their own devices, and for the games of running, hopping, and jumping, and so on.

639. Do you think it would be an advantage to have compulsory games, that is, superintended by the teachers during the intervals of school?—No, not for these young children.

640. You do not think so, either football or anything else?—Not for the young children.

641. Do you consider games like football advisable for children of that age?—No; it is too violent.

Gymnastics: some system for secondary schools desirable.

642. It is too violent you think?—Yes, it is too violent. There is one thing I should very much like to see, and that is the diminishing of work in secondary schools. If you could institute some system of gymnastics that would take them up, I should like very much indeed.

643. For what schools?—The practice in these secondary schools is for each teacher to give out lessons for the next day. The consequence is that the child's time is entirely taken up preparing lessons for the following day, and that in the school there is not so much teaching as hearing of lessons. It is quite a common thing for a child to have four or five hours' work every night grinding away at lessons. Now, if any system could be devised by which that could be abolished, I think that would be of immense advantage. If you could get evening classes of gymnastics in these

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Medical statistics: practicable and advisable.

secondary schools it would be a good thing; they get very little physical exercises at all.

644. Talking of the medical supervision, do you consider it would be practicable to have the weight and measurement — chest measurement — and other dimensions of children taken and recorded, and noted from time to time, with the view of seeing whether they are being physically developed or whether they are going back. Do you think that would be practicable at the Board Schools?—I think so; it would not take long.

645. And advisable?—Yes. I do not see why that should not be done. If you have a proper apparatus, a weighing machine, you could pass over twenty scholars in a very short time.

646. Would it lead to any practical results, do you think, finding out whether the children are properly fed, or whether they had sufficient exercise without this physical drill talked about?—Oh, you could not exempt them from physical drill on the ground that they were sufficiently trained and nourished already; but it might be an advantage in enabling you to keep back those for whom the drill was not suited. I would not drill a child, for example, unless it were gaining in weight; I would not drill a child if it were losing weight.

647. *By the Chairman.*—But at present, if I may interpolate a question, you do not know whether it is losing weight or not?—You do not know; they are simply put through the mill all together.

Code. Art. 24, outdoor lessons.

648. *By Sir Henry Craik.*—Might I ask one question. You know Article 24 in the Code, which allows school attendance to be counted for visits to museums, or for any form of outdoor lessons?—Yes.

649. Is that used in your district on Saturday afternoons, for instance?—It is to some extent, yes.

650. But not for drill?—Not for drill, no. It is generally used in connection with botany, and with what is to be seen and observed in the fields, and so forth.

651. There has never been any attempt to bring together a large number of the children of different schools on Saturday afternoon and count it as an attendance?—No. I know of no example of that. I know several of the teachers who take out their older boys and girls for a walk from time to time, and they point out to them what they see, and what they might see, and what they ought to see.

Cruden's system: training college.

652. *By Mr Shaw Stewart.*—I would like a little more information about Colonel Cruden's Training College?—Yes.

653. How are the pupils sent there; that is to say, would you kindly give me a few details about the school?—I think I have got the whole thing here on a printed paper, which I cannot unfortunately leave, because I have to give it back to him. He has a number of drill-sergeants, men and women, and he is prepared to send them out anywhere where they are wanted. There is a governing body attached to the thing, and then there is a staff of men, and a staff of women, and then there is a syllabus here of the physical training adopted by the Aberdeen School Board for the use of the public elementary schools. First, for infants and Standard I., next for Standard II., next for Standard III., next for Standard IV., next for Standard V., next for Standard VI., and so on, and then there is a syllabus of physical training adapted for Training College students. That is an important part of his work.

654. It was rather more in that direction that I wanted a little more information?—In connection with the students?

655. In connection with the Training College?—He has the supervision of the two Training Colleges in Aberdeen, both the men and the women. They go through their drill according to his system. They are regularly trained, and the girls have a suitable dress for the occasion, and the lads in their ordinary dress, and they go through this drill, which includes preliminary instruction, then physical drill without apparatus, and physical drill with apparatus, and then general instructions. When the students are being instructed the teacher will pay special attention to the backward pupils, pointing out their mistakes and encouraging them to persevere.

656. I understand it is a good system?—Yes.

657. But who have access; what pupils are taken into the school?—The Normal School pupils—the students, you mean.

658. What students and what pupils attend these schools?—The whole of the Training College students are trained by Colonel Cruden to be able and fit to teach the children when they have schools of their own.

659. They are obliged to go there?—Yes. His own training instruction has to deal with teachers only in so far as they voluntarily come to him; in vacation time they come in relays for a fortnight's drill, with a view of preparing them to undertake the thing in their schools when they go back.

660. Just one question about the gymnastics part of the secondary schools. You said you would like to see rather more gymnastics at the secondary schools?—I would. Yes.

661. Do you think if more time were given to gymnastics and less time therefore to lessons, would the results be as good as they are now?—I think so, most decidedly; and if you in any way by means of this Commission diminish the number of home lessons, it would be an immense advantage. That is the crying evil of our secondary schools. Each teacher gives the scholar enough to do for the whole night for his own individual class, and the consequence is the poor creatures are overworked and driven off their heads sometimes. They have far too much work to do.

662. *By Mr Alston.*—Would you advocate that the masters of the schools should be the instructors in physical training, as against the bringing in of the outside instructor once a week?—Oh, I think so.

663. It would be better?—I think so; much better.

664. The masters and mistresses, of course, are not equally perfect in their teaching?—No. Of course they do not know so much as those professionals; they want, to some extent, the physiological training, and they proceed by rule of thumb, but so long as the system on which they proceed is a good one, I think the advantage is in that.

665. Would it be a good plan that all the masters and mistresses should be taught at such an institution as Colonel Cruden's?—Practically they are.

666. The outside expert, the old sergeant, or whoever he may be, could be dispensed with, and all the teachers in the schools should become proficient in physical training?—Quite. He would still have his function, you know, in training these teachers.

667. Or such an institution as Colonel Cruden's?—Exactly; yes.

668. And would the physical drill be all on the same lines, modelled after one form?—Generally. Get a good system and keep to it, and if the teachers know their work, they will be able to modify it, according as circumstances require.

669. But would not uniformity in physical training be an advantage?—Yes, I think so.

670. *By Mr Fergusson.*—With reference to that matter you have just been speaking about, I think you said that you preferred a system by which there was a certain amount of physical training each day, instead of an hour once a week by the trained instructor?—Yes.

671. But would you be prepared to do away with the trained instructor altogether, or would you prefer a system by which the teaching staff gave their instruction every day, and a trained instructor came at intervals and saw what had been done, and put them through their drill or their physical exercises, and pointed out what was wrong, and said what was to be done before his next visit, and so on; or would you like to abolish the trained instructor altogether?—I would not abolish the trained instructor until the ordinary teachers were sufficiently well up in the subject to do without him.

674. They are not at this moment?—No, I do not think so. They have only practically—many of them —this fortnight's drill in the summer time. The subject is required now by the Code, and they are always very willing to prepare themselves, and spare no pains to do so in everything that is required. They devote their Saturdays to drawing classes and to gymnastic classes, and classes of other sorts, with a view to carrying on the schools.

675. In your experience, the children themselves like this physical training?—Oh, they are very fond of it.

676. It gives a pleasure to the whole of their school work?—Exactly. They are very fond of it indeed, and that is one reason why I think it should come at intervals daily.

677. You said that in some schools, at anyrate, the teachers do not carry out sufficient daily physical work, but leave it for the trained instructor's visit, but is not that a matter of which the inspectors have the ordering? If you state in the time-table that there is to be a certain amount every day, the teacher has to do it?—Practically I could do that, but it would be, perhaps, a little despotic; but it could be done. All time-tables have to pass through my hands, and I have to say whether I approve of them or not, and it is quite within my power to say I disapprove of this, because there is not a sufficient amount of physical drill at intervals.

678. As to games, I think you said the teaching of games was not very desirable. Football was rather too violent?—Yes.

679. But do you think, for boys over twelve, a little football or cricket is too violent?—Oh, well, cricket: I would leave these to their own desires.

680. You would not teach them how to play these games in a proper way?—Oh, they will do that themselves; they will pick it up themselves.

681. Do you think so?—On the other side of the Border we do not attach so much importance to cricket as is done on this side.

682. Then, on the question of health, do you find, as a rule, the children in your schools in Aberdeenshire and Perthshire are well fed?—Mostly.

683. We were told that physical training would probably increase the child's appetite?—Yes.

684. And the question is, where is the increased food to come from. Is that a matter you find any trouble about?—Well, there will be in the towns. Yes, in the towns there is a number of poorly fed children—neglected children.

685. But the country children, in your district at any rate?—Oh yes, they get plenty to eat.

686. They get enough, do you think?—Oh yes.

687. But I suppose, without suggesting that you should give them food for nothing, if any arrangements could be made which would facilitate the feeding of the children, you would consider that desirable?—Yes, I think so.

688. So as to secure as far as possible that the children, especially if they were getting more physical training, should be fairly fed—get a good meal in the middle of the day?—Well, that is provided for in many of the country schools.

689. It is?—Yes.

690. They do not get it free?—In some cases they do, and in most cases they pay a nominal sum, a halfpenny or so for the dinner.

691. Do you approve of that?—Distinctly; it increases the attendance of the scholars while that is going on.

692. Do the parents favour it?—Yes, and they have the same thing in Dundee. They have a free system of feeding in Dundee. There they subscribe, and they give dinner tickets out to children that need them. I forget how many thousands they gave out last year. The consequence is that during the time of the prevalence of these dinners the attendance is almost perfect at the schools.

693. And that, of course, increases the grant?—That increases the grant. Yes; it increases the working power of the children as well.

694. They only do that in winter I suppose?—They only do that in winter.

695. Not all the year round?—Not all the year round.

Mr A. Walker.

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696. *By the Hon. Thomas Cochrane.*—I should rather like to know, from your long experience, whether you could give a sort of model day of what you think would be appropriate for a child—say, in a town, an artisan's child. How much physical exercise a child should do during the course of a day, or in the course of a week. What would you think, from your experience, would be the best to develop its physical qualities?—Well, I should give them ten minutes or a quarter-of-an-hour's drill in the morning when they assemble, march them into their classes, then I should give them another quarter or ten minutes at the forenoon's dismissal, and I would give them another ten minutes at some time in the course of the afternoon, between two o'clock and four. That would be half-an-hour a day—that would be quite sufficient.

Physical exercise: half-an-hour a day sufficient, if graded, for all ages.

697. Some of that would be drill pure and simple, marching, and that sort of thing, and the rest would be physical exercises?—Yes.

698. And would you give the same training—the same amount of training—to children of all ages, or would you give them varied training as they got older? Would you vary it?—Well, ten minutes should be quite enough; I think half-an-hour a day.

699. At all ages?—At all ages.

700. Give them all a certain amount of training?—Yes, the exercises being graded to the different ages in the school.

701. Could you give any idea what you suggest should be done after the compulsory school age? Can you give any idea what you would do in the case of a boy who left school at fourteen years of age?—Well, I suspect you cannot compel him to do anything; you may induce him. You can institute classes, and try and persuade him to come into them; I do not know if you can compel him to come.

Continuation Classes: compulsion inadvisable, but beneficial in result.

702. What would be the nature of the classes you would suggest from your experience?—I would suggest the physical drill and the gymnastics. I would begin with gymnastics, then exercise his muscles a bit with a view of strengthening them, and I would not begin altogether with military drill.

703. And who would impart the instruction after the school age?—Oh, you will always get plenty of people to do that.

704. That would be some separate department under the School Board?—Yes, that might be done.

705. Have you any idea in your own mind as to what you can suggest to the Commission as being a line they could adopt?—No, I do not know that I have.

706. There is a suggestion given by one of the witnesses before us that greater use might be made of games; and where there are special exercises such as shooting, the practice of extended order of drill, judging distances, finding the way to a given point, and making rough maps of the neighbourhood, that he lays down as a suggestion?—These are all very good things to do certainly.

707. But you can give no idea how it would be possible to get these young fellows to do so?—No, I am afraid I cannot.

708. You are opposed to compelling them to do it?—I think so.

709. *By the Chairman.*—As regards compulsion, I suppose you agree so far that we have progressed a certain way along the compulsion road, have we not?—Yes.

710. I mean that there was no compulsion before 1872 or 1873, whatever it was?—No.

711. And that there has been a good deal since?—Yes.

712. Well, you say it could not be done. If it has been possible to do it up to now, why should it not be increased as a matter of possibility? I mean, did you seriously mean that, or did you only mean it would create such a stir?—Well, it is a political question; I am not inclined to go into it, but you can try it.

Mr A. Walker.

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Secondary education committee proper authority to move in the matter.

713. *By Sir Henry Craik.*—But you give us your opinion that for the benefit of the boys it certainly would be important?—Oh, undoubtedly it would be.

714. *By the Chairman.*—Now, are you in any way acting as assistant or as a trainer at meetings of the Secondary Committee in connection with the County Council in Aberdeen?—Yes; I am a member of the County Committee and the Burgh Committee of Aberdeen, and of the County Committee of Kincardine.

715. When you said just now that you could suggest no authority, do you not think that would be one of the authorities that might be moving in the matter?—Yes.

716. I mean, it all comes in to further education, does it not?—It comes in to further education, yes. They have a very considerable sum of money at their disposal, and I am sometimes inclined to think that they waste it.

717. But is it open to them to waste it or not as they like?—No; the Department has the pull over them there.

718. Very well. Would it not be possible by that means?—It might be possible if the Department would allow them to spend part of their money in promoting classes of that sort.

719. But does it not seem to you a very obvious way really of meeting the difficulty?—Yes, it does.

720. If it were not done by the School Board itself, taking the fact that the children were over a certain age?—Yes, that might be done.

721. And it would clearly come within their purview, within their powers, would it not?—I think so; it would come under the heading of technical education.

722. No, not technical education yet; that may be combined, but it is not technical education. That affects the Secondary Education Committee. At present there is a separate Technical Education Committee, is there not?—Well, the two bodies are practically one.

723. No, they are not in Perthshire; I do not know whether they are in Aberdeenshire. The Technical Education Committee is not the same body as the Secondary Education Committee at present; is it not distinctly different?—Ah!

The witness withdrew.

Mr J. G. Legge.

Mr J. G. Legge, examined.

724. *By the Chairman.*—You have very kindly put in a good many notes. I think it would be convenient to the Commission if you would go through them?—Well, my lord, it seems to me essential to get some definition of terms as to what really does cover Physical Training. I should suggest as a convenient classification the four headings—Gymnastic applied, that is to say, in conjunction with fixed apparatus, and secondly free.

Physical training: classification.

725. Just one moment. Is this physical training for children or for those over the age of fourteen?—For all.

726. From the youngest child who goes to school?—From the youngest child. Free gymnastics are body movements without apparatus forming a fulcrum. Of both applied and free gymnastics we have the national system in vogue at Aldershot. Foreign systems, especially those of Sweden and Germany, have been ransacked to form the Aldershot scheme. Under free gymnastics I should classify what is known as Swedish drill, the old-fashioned calisthenics, and what is known as physical drill, with or without arms, bar-bells, dumb-bells, etc., various forms of physical culture, promoted by individuals such as Sandow, and also skipping and dancing. Then come second, the various kinds of field sports; then come third, nautical exercises.

727. And you specify cricket, football?—Cricket, football, hockey, athletics, swimming. Then nautical exercises—rowing, management of sailing-boats, work on masts and yards, work with a field-piece ashore; and swimming comes in here too. Lastly, fourth, the arts of self-defence—boxing, wrestling, fencing, single-stick, and shooting.

728. May I ask, do you give those in any sort of rotation as to school age—say, (a) is for the younger ones, (b) is for the more advanced—in any way, or is it simply merely classifying them under certain heads?—Simply a general classification under certain heads.

729. You do not apply shooting, for instance, to the smallest child that goes to school?—No, nor would I give applied gymnastics, for instance, before the age of twelve. I think free movements up to eleven or twelve, but I do not think twelve is a day too early to begin good hard work with apparatus, or to shoot at a Morris Tube range, or anything of that sort.

Reformatory and Industrial Schools: existing provisions: for boys: gymnasia.

730. Then your next is the existing provision in reformatory and industrial schools in Scotland?—Yes. Well, we have twenty-three boys' schools. There are gymnasia at the Mossbank Industrial School, Glasgow; the Fechney School at Perth; the Paisley Industrial School; the Kibble Reformatory at Paisley (they have one in the course of building). There is one at the 'Empress,' and there are two gymnasia, not quite as good as the others, at Aberdeen and at Dumfries, so that at all those there are applied gymnastics. There are applied gymnastics in addition on the 'Mars,' at Arbroath, Stranraer, Dundee and Greenock, and Tranent, near Edinburgh. That is to say, out of the twenty-three schools, fourteen take applied gymnastics. I should say that the work on the 'Empress' and the 'Mars,' the two training ships at Greenock, Mossbank, Stranraer, and Arbroath is decidedly good. It was also good at Fechney until the disastrous fire interfered with them. I should like to point out that the work at Stranraer and at Arbroath is especially interesting, because at Stranraer you see what the energy of an individual can accomplish under very straitened circumstances, and at Arbroath the school is so small that it shows that it is even worth while in a tiny school to make an effort. Free gymnastics may be said to be given at nearly all the above, and in addition at Kilmarnock, at Ayr, and to some extent at Leith. That is to say, at eighteen out of the twenty-three, you get either free or applied gymnastics. At the five or six remaining schools you find physical training of a miscellaneous kind, not very good. Now, take the next heading—field sports. The great feature of this is the football league competition. There is a league formed amongst the reformatory and industrial schools in Scotland, and they play regular league matches, and about nine schools play the game extremely well.

Game

731. Which football is it that is played?—Association.

732. Always?—Yes.

733. Only?—Only. There is not much cricket. Of course, it is not so much developed in Scotland, but there is very good cricket to be seen at the Wellington Farm Reformatory, near Edinburgh. Athletics generally, such as running and the rest of it, are not so well developed as I should like to see them in Scotland. In the South we go a good deal further; but there is a very good feature in the harriers at the Kibble Reformatory. The boys form a regular pack of harriers, and take weekly runs; and then when they come in from their run they go into the lavatory and a hose is turned on them.

734. Where is this?—At the Kibble Reformatory, near Paisley. They sometimes join the runs of the harriers attached to the Young Men's Christian Association and so on. Swimming is not so much developed as I should like to see it. Recently we have had two fine swimming baths erected in connection with the Paisley Industrial School and the Mossbank Industrial

Swim

School, now perhaps the most completely equipped in Scotland.

736. Where is that?—That is near Glasgow. It is under the Glasgow Juvenile Delinquency Board. The ships also pay a good deal of attention to swimming. As to nautical exercises, I can only refer you to what is done on the 'Empress' and the 'Mars,' the two training ships. I should like to call especial attention to the excellence of boat-pulling in connection with the 'Empress,' which I believe is quite remarkable, and also to the work with the field-piece ashore in connection with the 'Mars.'

737. What, gun drill?—Yes. I think if you see that you will see what can almost be done in any shore school if you have an old field-piece to work with. Then as regards self-defence, you will see boxing and so on on the 'Empress,' but people are a little shy of developing it as I think it ought to be developed. There is one Morris Tube range in connection with an industrial school, that is on the 'Mars' at Dundee. That is capable of infinite expansion. So far as regards boys. As regards girls, there are twelve schools. None of them take applied gymnastics, but all physical drill of one sort or another. The work is fair in a few of them, but the majority of them want waking up. The outstanding school giving an elaborate course of physical culture, amounting to a course of free gymnastics to girls, is the reformatory at Chapelton, near Glasgow. That school also sees to swimming. At the other girls' reformatory—the Dalry, at Loanhead, near Edinburgh—there is a good feature, the girls play hockey vigorously. There, too, some attention is paid to dancing in a quiet way, with a view to improving the gait of the girls. Dr Guthrie's Girls' School at Edinburgh gives some attention to quiet dancing. The schools where really good work is being done in free gymnastics, or work with clubs, dumb-bells, etc., are Chapelton, North Lodge, Aberdeen, Kilmarnock, and Maryhill. This last named is likely to soon reach the level of Chapelton. They are building a special hall for the purpose of providing proper facilities.

738. That more or less exhausts what you have to say as to what exists at present. Now, as to what future steps might be taken?—I think the first thing wanted is a physical census, and the value of that will only tell in time after you have repeated it at stated intervals. The last physical census of any importance in Great Britain was that of the Anthropometrical Committee of the British Association in 1882 and 1883.*

739. Has there been anything of the kind since?—There has been absolutely nothing since.

740. I do not know whether it was the same?—Yes. There has been absolutely nothing since, except isolated efforts here and there. I got out a census as regards my own schools last year, and I shall be glad to hand into the Secretary the results.† I may just call attention to two points which may interest the Commission. The first is, that these results do not go to show that there has been any physical degeneration in the town population during the last twenty years.

741. That there has not been?—That there has not been any physical degeneration. They go to show that the town population is not worse off physically now than it was twenty years ago; if anything, rather better.

742. *By Professor Ogston.*—During what period?—The last twenty years; since 1882.

743. In what class of population?—I am speaking of the slum population, the lowest class physically. Then, the other point I should like to take is this—they show the effect of systematic physical training, which is more developed in England than in Scotland among reformatory schools for boys. It has reached a higher pitch, and schools have been rather longer at it; the reason for that being, that they are wealthier. They receive more support from the rates in England than they do in Scotland. Well, the result of this is, that when I compare the physique of reformatory boys in Scotland and England, I find that at the age of fourteen, boys in Scotland have a slight advantage physically. That showed that the raw material in Scotland was slightly better than in England; but when you turn to the age of seventeen, after every boy must have had at least a couple of years' training, you will find the English boys have a marked advantage, and that seems to me to show perfectly plainly what the result of a little careful attention to physical training is. A general census would bring out very clearly whether the agricultural labourer's child has, as a matter of fact, much advantage over the artisan or the town labourer's child. I think the census would bear out what the old figures of 1882 elicited, namely, that although there is a slight advantage in favour of country-bred children, it is not very great; and the point I should like to make in connection with this is, that physical training would probably be almost as much to the advantage of the poorer classes in the country as in the towns. A little point in connection with inquiries of this sort that I should like to call the Commission's attention to is the teeth. That seems to me a most important matter; and my observation, after visiting both countries, is that the state of the teeth is rather worse in Scotland than it is in England. I think, if possible, more precise data should be obtained on the point, because on the state of the teeth depends such an enormous amount of consequences. Now, I do not see well how one can insist on the provision by every school authority of a fully-equipped gymnasium. It is an expensive matter, and it requires skilled instruction; but I do think that applied gymnastics are absolutely essential to a certain extent, because whatever free gymnastics do for the mere physical development, they have nothing whatever to do with courage, and you want something which calls for a certain nerve.

Gymnastics: free and applied: differences.

744. *By the Chairman.*—Perhaps it would be convenient if you gave the Commission a little explanation as to applied gymnastics; let us have it on record, the difference between the two, shortly?—Free gymnastics are movements, extension movements, either slow or vigorous, either with or without movable apparatus, but not dependent on the use of any apparatus to form a fulcrum. That is the point. Now for applied gymnastics, you require some apparatus to use as a fulcrum, such as the horse for vaulting over, the horizontal bar, the parallel bars, the ladder, and so on; the trapeze, and the rings.

745. Leaping poles?—Yes.

746. That is shortly the distinction between the two?—Yes. I think a certain amount of applied gymnastics is essential, and I think every school should be provided with a vaulting horse, and I do not think any janitor or school-keeper should be appointed to his office who is not capable of taking boys over the horse. I should suggest that free gymnastics for at least half an hour three times a week on the Aldershot principle should be made compulsory. A good model course suitable for children of school age has recently been drawn up for the Board of Education in England by the War Office. I should deprecate, however, anything more in the way of marching drill than is required in connection with free gymnastics, and for the purpose of moving children conveniently in and out of the school or class room. I should also deprecate the use of fancy systems. I should, as far as possible, make the Aldershot principle compulsory.

Uniform system desirable: free gymnastics on Aldershot principle should be compulsory.

747. Do you call Sandow's system fancy?—I should. But, of course, the Aldershot principle has drawn upon Sandow to a great extent. The great argument against too great freedom of choice is the hardship on teacher and instructors of having from time to time to get up new methods, to suit the caprice of a new inspector or a new School Board. I should suggest that no Training College should be without its fully-equipped gymnasium, under the direction of a gymnast trained on the Aldershot lines. I should strongly encourage the Highland fling; I believe it to be a most excellent exercise. There are some minor difficulties. The immobility of schoolroom furniture, and the gallery or step system; and a very great difficulty is the question of boots, especially among the poorer classes.

Suggestions: for boys.

* *See* Vol. I. Appendix VII. † *See* Vol. I. Appendix I.

Mr J. G. Legge.

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Games: competitions organised.

As to the immobility of school furniture, I should say that all school furniture should be made movable; and as to the question of boots, well, I should get rid of boots altogether, and encourage working with bare feet.

748. At all times of the year do you mean?—Indoors; yes, certainly. As regards field sports, I should encourage football; not mere kicking about, but the scientific game. Leagues, I think, should be formed in every inspector's district, and an inspector commended where his league is an enthusiastic one. Competition is a great stimulus. I do not see why we should have King's Plates, and so on, to promote the breeding of race horses, and not also some official recognition of sport for boys. Then I think a strenuous effort should be made to form old boys' clubs in connection with schools. Old boys might in time take a good deal of the burden of organising games, and so on, off the teachers' shoulders. I should like to see the Boys' Brigade system closely with the school system.

749. Explain yourself a little, please, on that?—Well, I mean I should try and work the Boys' Brigade so that schools formed separate units, and that the officers were all attached to the same school. I think the school should form the unit. Then I do not think any school should be without a jumping pit for long and high jumping, and that work should be supervised by the janitor. Jumping is one of the weakest points in the physical training of the country. At any military depot it is quite striking to see the recruits at the practice of jumping. You will see grown fellows of eighteen to nineteen who cannot clear thirty inches in height, and some of them as strong men as you could wish to see, simply through want of training. Then long distance running, paper chasing, and swimming should be developed for field sports and athletics. Time should, of course, be found out of school hours or in recreation intervals. I think there is some need, in certain districts, of impressing on people the truth that holidays and half-holidays are the property of the children—that they are not the parents' property—for the purpose of games.

750. Up to what age do you mean when you say that?—Up to fourteen.

751. Not beyond?—Not beyond; no. Then, as regards nautical exercises, I think it eminently desirable that in seaport towns and fishing villages, as far as possible, the physical training should take a nautical turn. Free gymnastics, jumping and the horse, are just as useful for sea as land, but the nautical twist might be given in various ways. For instance, in a playground, or on a convenient plot, a mast and yard, with stays and ratlines, with a net underneath, might be fitted up. This is a simple piece of apparatus, but excellent gymnastic work, in the way of escalading and so on, can be done. Then boat-pulling should be encouraged, and competitions in rowing, as against competitions in football or cricket, should be encouraged. To facilitate this, a type of boat should be specified for use, for example, the lightest in use in the navy, and also the dinghy, so as to teach sculling. I suggest the lightest in use in the navy, because there, you see, boats can be got cheap; very often when condemned for the navy they are good enough for use in a little harbour or on a river. Then, if possible, the management of a sailing-boat might be taught to boys.

752. Do you know anywhere where a sailing-boat is used in Scotland?—Only in connection with the training ships.

753. Anywhere else at all?—No.

754. There is in England, you know?—There is in England. I know several.

755. Several?—Yes.

756. Not in Scotland?—Not to my knowledge. Then, as regards self-defence. As regards boxing, I know public opinion is sensitive about that, but I think, besides a great physical advantage in that exercise, there is a wonderful moral training to be got from it. Fencing I do not think one can do much with; it is too elaborate. Singlestick is possible, and also shooting with the Morris Tube range. One advantage of all the physical exercises connected with self-defence is that they are so extremely attractive that if they were only permissible, well, then, the thing would run of itself.

757. That is all as regards boys. Then you come to the question of girls?—Yes; I need not dwell on that at the same length. My own opinion is that the ideal system for girls would be pure Swedish drill, coupled with dancing and skipping. A lot of skipping is done by girls, but it is not developed as it might easily be. Far better skipping can be generally seen done by boys than by girls. It ought to be systematised. As regards the pure Swedish drill for girls, I do not see why every teacher should not be obliged to qualify herself. At the women's Training Colleges the Swedish drill might take the place of the Aldershot gymnasium, free and applied, for men. We have in the Aldershot system a national British system for men. We have not got a national system for women, so we may as well adopt the Swedish system as any other. Applied gymnastics are certainly not as valuable in the case of girls as in the case of boys. The best game for girls is hockey.

758. Provided they play with one another?—Provided they play with one another. Generally speaking, for both girls and boys I should suggest as much work in the open air as possible. As physical training, agricultural work is not first-rate; the great advantage of it really is that it is in the open air. One ought to make this point, because one is often told, 'Oh, such and 'such a boy does not need ordinary games, and so on, 'because he is working in the garden'; and I have found that in some farm schools, where the boys have plenty of healthy work in the open air, at gardening and so on, their physique will not compare for a moment with even a town school which gives real attention to gymnastics. I should say with skilful management, and where good discipline obtains, a great deal of school work in the summer can be done out of doors. Then there is a good deal to be done with these various movements in large towns for summer camps and fresh-air fortnights, such as they have at Glasgow. Some of the industrial schools which go to camp have developed a very fine form of exercise available when children are at camp, and that is scouting—a sort of sublimated form of the old game 'I spy,' but capable of wonderful variety and development. I have indicated, perhaps, that the brunt of the work falls upon the teacher, and I should like to suggest that a point for the Commission's consideration will probably be how to lighten the burden on the teacher. I might suggest something might be done first of all by introducing as much uniformity as possible, so as to obviate the necessity of getting up new methods; secondly, by appointing as janitors or school-keepers retired petty officers and non-commissioned officers, duly qualified to give instruction; third, by special appointment of visiting teachers from military depots, or coastguard stations, or gymnasia; fourth, by enlisting, and especially for field sports, voluntary help from the Young Men's Christian Associations, Boys' Brigades and boys' clubs, and the like; and I feel, of course, that the successful development of the whole thing will largely depend upon a Government grant in aid.

759. In other words, increased taxation. Is that so?—Well, yes. But I think the money would be more economically spent in this direction than others that might be mentioned. My last point I need not enlarge upon. I do not know whether you will consider it within your reference, but I might just mention it for your consideration.

760. Ah, very much so. What is to be done with underfed children?—If we are going to develop the physical training of children, we must be on our guard against overworking them; and, of course, underfed children would be positively injured by even light exercises.

761. And your suggestion is?—My only suggestion is—I make it with diffidence—of course, I am not an authority—that the head-teachers of the school should

be responsible for reporting to the managers or directors of the school those who, in his opinion, are unfit for the regular physical training of the school; that the matter should be referred to a medical man, and he should decide whether the incapacity of the child was due to constitutional infirmity or underfeeding. If to the former, of course exemption must be granted. If the cause is, in his opinion, underfeeding, well, then, the parent or guardian should be warned; and where the warning is ineffectual, the child should be fed at the school, and the cost recovered from the parent or guardian. Finally, where sheer poverty is established as the cause, then the parochial——

763. The Parish Council?—The Parish Council must take up the case. I may mention, in that connection, that when I visited Sweden last spring for the purpose of studying Swedish gymnastics, there I noticed at one or two of the schools—day schools—that they had canteens; and at one school I remember, in particular, children could either buy their lunch at the school—a very simple lunch, bread and so on—or some children had tickets which they could just hand in.

764. In towns?—Yes; in Stockholm. My views, I might add, which are in favour of applying compulsion, and developing, as far as one possibly can, the physical training in schools, may be coloured by my consciousness that in the schools I have special knowledge of, it is of such enormous importance. They take the lowest class physically in the whole population. It is a sort of thing that hits you in the eye when you go into one of them, that everything must be done to work them up to a decent physical standard.

765. And feed them?—And feed them.

766. Then you have one or two suggestions that you would like to bring forward as to physical training after the elementary school age?—I have not much to say on that point, save as regards Evening Continuation Schools. I should like to see compulsory attendance in force up to the age of sixteen. I do so for special reasons.

767. In town and country?—In town and country—particularly in town, where it would be easier. I am quite sure that if it were enforced, the population of the reformatory schools would go down, which is not a thing to be regretted; and of the evening school time, I should give up, roughly speaking, one-third to physical training, very much on the lines that I have sketched for elementary schools, though, of course, going further as regards applied gymnastics. Exemptions would have to be granted freely; and I do not think, after the school age of fourteen, it is desirable to give official encouragement to field sports.

768. You do not think it?—No. I think human nature, especially with the stimulus which will then have been given in the elementary schools, will carry it far enough, otherwise you may make it a passion, the whole attention being devoted to it. Then, as regards the ages from sixteen to eighteen, there, I think, I should be prepared to go to great lengths in the way of compulsion. I should positively like to see a poll tax on every youth of from sixteen to eighteen; and to obtain remission from the payment of this money, force him to appear on certain occasions, and produce a certificate that he has gone through a certain course of training, or is certified as efficient.

769. When you say that, are you applying that to this country, as you know this country?—Yes.

770. And in that way you think it is quite feasible in this country?—I think it is just as feasible, if we do it by means of a poll tax, as the collection of any other tax, and just as feasible and reasonable as compulsory education. I should not make the tax too heavy, because one advantage of having a tax at all would be to enable people to obtain reasonable exemption, and I do not think one, certainly at the outset, should be too severe. But as to how the training is to be got, I can only suggest that it should be by some reorganisation of the Volunteer system. I suppose the name Volunteers would have to be given up in the event of any drastic measure of that sort. Perhaps it might be called civilian training, or anything one pleases, but it is on the lines of the Volunteer system, screwed up to a high pitch of efficiency, that, I think, the training should be given. I feel certain that, properly worked, there is no need why there should be any falling off in the amount of power in the country available for working in factories or mines or commercial pursuits. The time taken need not interfere to any very great extent. I am convinced there would be so much greater energy introduced into the national physique, that it would more than counterbalance any loss between the ages of sixteen and eighteen. At eighteen you would have an army of men thoroughly disciplined, and by disciplined I do not mean trained in military notions and that sort of thing, but I simply mean men formed in good habits of mind as well as body. In fact, loafing, which, to my mind, is one of the curses of the big towns in the country, would be reduced to a minimum. The reformatory schools are simply choke-full of loafers; yet, by hard work, and compulsory physical training, they turn them into extremely active men. I should like to mention, in conclusion, significant figures to show what can be done by physical training, both in affecting the bent of disposition of lads, as well as affecting their physique. The growth of physical training in the reformatory and industrial schools generally has been very marked in recent years. The total number of inmates of these schools who joined the army in the three years 1894–1896 was 1343. The total number of those who joined the army in the three years 1897–1899 was 1939. The totals of the latter period were rather smaller than in the former period, so that the increase is even greater than it looks; and it is important to bear in mind that every single one of these was a purely voluntary enlistment, and that in fact, for this last period, out of every six boys trained in the reformatory or industrial schools, one entered either the army or the navy.

771. *By Mr Alston.*—Do you include the training ships in those?—Yes.

772. Necessarily you would?—But the important point to me is that the numbers have gone up so enormously in the period 1897-99, which period, of course, does not bring in the enthusiasm about the war. It is purely because the constant drill, and so on, physical training and the promotion of open-air active life, made them look at the services as a congenial sphere of operations later on. When I said just now that the reformatory schools were full of loafers, I should like to modify that term, because I have a great respect for the reformatory boy. If he is either a loafer or a lurcher it is true in many cases it is only circumstances that have made him so, and he may soon educate himself out of that tendency if he is properly handled.

773. *By Professor Ogston.*—You gave us some very important evidence based upon the physical census of the boys. You mentioned a Commission of 1882, of which I did not gather the name?—It was a committee of the British Association. It was called the Anthropometrical Committee of the British Association. The moving spirit of it was Mr Charles Roberts, the surgeon, who died last autumn. Physical census and data.

774. And you compared the results obtained by it with those of your own of nineteen or twenty years later. I do not want you to enter into minute details, but can you give the Commission in a few words sufficient information to show what were the data on which the first Commission referred to went—the physical facts, measurements, and the like, similar to those of your own physical census. What measurements were taken, roughly—height and weight, I suppose?—And chest girth in the case of boys.

775. And any muscular test, such as the girth of the arm?—No, but in a few isolated terms they get such additional measurements as arm stretch.

776. And those were the chief data?—Those were the chief data.

777. And from what class were they obtained?—All classes; and the class which I compared was the class committed to industrial schools.

778 Then could you make a plan showing how far

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your own physical census was capable of being compared with that of the British Association Committee?—Yes; I took the stature following their rule, that is to say, without boots. I took the chest girth with the chest empty. The weight, of course, I also took with clothes as they did, only the reformatory and industrial school boot being rather a heavy object, I made them take off boots.

779. The results that you obtained by comparing the two showed that there was no physical degeneration of the race in those twenty years in the case of towns?—In the case of the slum children in towns, yes.

780. You will be able to lay before the Commission, now that we understand that the facts of the two observations were comparable, the exact figures regarding that, and bring out that there was no physical degeneration in towns?—Yes.

781. Then we may pass that over as we will get that, and also you will be able to give the Commission the data which show that at the age of fourteen the Scottish boys were rather superior in their physique to the English boys?—In the reformatory schools.

782. Also you will be able to supply it with similar data from which to deduce that the country children have no advantage in physique over the town children?—Have no great advantage.

783. Have no great advantage. Of course, that is a point, as we are aware, on which there is difference of opinion, and it would be very important to know the facts upon which you went?—I admit there is some advantage, but I do not think there is any great advantage.

784. And similarly also, you will supply us with figures referring to the teeth, and presumably digestion?—No; that I cannot do.

785. On what were you going in drawing the inference?—On observation.

786. General impression?—General impression. I may say that I was at school as a boy in Scotland, so that I know the country well. If I might suggest one means of getting a comparison between England and Scotland in that regard, it is that the possible source from which the information might be obtained would be the Post Office. They have to examine large numbers of young girls with a view to Post Office appointments, and I believe the teeth are very carefully looked into.

787. So that we have already records?—I should think they very likely have. The proportion of rejections, for instance, on account of the teeth would probably be known.

788. *By the Chairman.*—The last point that I wanted to ask your evidence upon was with regard to these physical observations upon youth in schools and reformatories. There is, I suppose, no very great difficulty in applying them. Any intelligent teacher provided with a weighing apparatus and measuring apparatus could obtain and supply the Department with the data?—Yes.

789. If it were once made imperative that they should do so?—Yes.

790. There is no particular skill required to obtain such information as would be valuable with regard to the health and the improvement, and the existence of weaklings?—None, I should say, though, if I may just add, I think there would be tremendous difficulty if any effort were made to get elaborate measurements, such measurements, for instance, as Dr Francis Warner is anxious to obtain.

791. My question referred, however, to the observations which are made in many of the English public schools regarding height, chest measurement, and weight?—Yes.

792. *By Mr Fergusson.*—You are talking of the boys up to fourteen?—Yes.

Games should be taught.

793. Would you not be in favour of giving them games or sports?—Very strongly in favour.

794. Of teaching them games?—Yes.

795. We were told that there was no great necessity to teach boys games. They would pick them up for themselves. Do you agree with that?—Not in the least.

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796. Then, as to the inspection that is required for this physical training. Do you think that can be properly done without some supervision? I do not say that it should all be done by a trained inspector, but some occasional supervision by somebody who had been trained to physical exercises and drill?—Oh, I think that is eminently desirable.

Inspection by trained inspector.

797. That you should have a trained inspector?—Yes.

798. Specially trained—that is to say, a specialist?—Yes; and that he should keep the local inspector or inspectors of districts posted up in the points.

799. What I rather meant is, could you leave the whole of this training to a schoolmaster?—No, certainly not yet.

Clothing boots.

800. You said that boots were a difficulty; but you do not suggest that all this drill and everything should be done barefooted, do you?—Well, the boots are a very serious difficulty in the schools in poorer districts. It is impossible for a boy to take up the proper position in the boots that one often sees him in. He cannot properly carry out, for instance, the Aldershot system of free gymnastics unless he has a comfortable pair of boots.

801. *By the Chairman.*—Or canvas shoes?—Yes, or shoes, and that is a most expensive item.

802. *By Mr Fergusson.*—Canvas shoes, of course, would be the most desirable?—The most desirable.

803. But you suggest, to get over the expense, that they should go barefoot?—Yes; I might mention that this question of boots has been a great difficulty in the reformatory and industrial schools, because they have to cut down the expenses as far as possible, and so they provide them with very heavy iron-shod boots, in which they cannot drill properly, and so I have suggested bare feet; then the difficulty arose of an asphalte playground on a cold day, or a gravelled playground, and that has been got over in cases by having large strips of cocoa-nut matting, which are kept under a shed and rolled out, just as before a house in London when a carriage drives up.

804. Well, then, there is another difficulty connected with boots, talking of the ordinary school child who comes to school with wet feet?—Yes.

805. If you had shoes provided, they would serve the double purpose. You would be able to put dry shoes on to the child if wet, and also satisfy the physical exercises?—That would be the best solution of all.

806. You would kill two birds with one stone in that way?—As part of the school apparatus.

807. I think you deprecate marching in physical drill. You do not want much of that, not more than a certain amount for discipline?—Just enough for discipline.

808. But free gymnastics is what you wish?—There are all the turnings, and so on, to be acquired in free gymnastics.

809. And you consider the feeding question a very important one?—Yes, I do.

810. *By Mr Alston.*—Do your remarks apply only to reformatory and day industrial schools—those remarks you made before the interval? For instance, you quoted all boys' schools?—Oh, no. I mean all day schools. My remarks were of general application, though I thought I ought to suggest that possibly my views might be highly coloured in some respects, owing to my connection with a special class of schools. I mean them to be of quite general application.

811. You think that a very full and safe course of physical exercise and gymnastics might be applied?—Yes, I do.

812. And as Mr Fergusson has mentioned the question of food, of course in reformatory and day industrial schools the dietary is ample?—Yes. The question does not arise there in the same way.

813. That remark would not apply to the ordinary Board School. Then you would be in favour of systematizing all games? As we know, in Scotland the games are very rough-and-tumble, without any

Games.

science as in England?—With the exception of football. Football is the game which Scotland has developed, and I should place football in the first place in that country, and cricket second.

814. Would you play always under the supervision of someone in authority?—No, not always; but I should certainly insist on boys being taught, and I should even employ professionals to teach them.

815. That is to say, the game should be scientific?—They should be taught the scientific game. It would not make them dislike the game. I have known many young children intensely dislike the kindergarten games of an elaborate kind which were all teaching, and very little play, but the ambition to excel in field sports is quite enough to get over the *ennui* of training.

816. Apart from the necessity of a professional teaching football scientifically, what about the supervision against all the evils of football, which has become one of the roughest games we have?—Well, I dispute that.

817. I am afraid, whether with the professional team inside, or the crowd outside, it is considered one of the roughest types of entertainment we have got. We had this remark made by a clergyman the other day upon the recent Glasgow event. He alluded to 'the roar of the football beast.' Is there anything of that kind?—I was at the last international match in Glasgow before this unfortunate one, and I have heard the roar this last season on a dozen football fields, but I never heard anything worse than the roar along the Thames on the occasion of the University boat race; and I may say this, that in the opinion of some of my friends who are experts at the Association game, the roughness has largely disappeared of recent years; that is to say the type of professional football player has improved, and the behaviour of the crowd has improved.

818. So you think that the boys of the reformatory school would not need any supervision in the playing of the game?—No, I do not think so on all occasions.

819. It is not a necessity that a master should be always on the spot?—I do not think so.

820. Controlling the conduct, suppressing bad temper, and so on?—No; I do not think so.

821. Then would you advocate, in the teaching of physical exercises and free and applied gymnastics, professional experts as the teachers?—As far as you can get them.

822. Not the teachers of the schools?—No; not the teachers of the school.

823. Would it not be possible that the teachers of the schools could be so trained that they could undertake all this work?—It would be possible in certain instances.

824. Would it not have the advantage that they having already a control over the boys and the girls, the control would be further exercised in its application to drill?—That would be of great advantage.

825. Would you advocate that the system of training in physical exercises and applied and free gymnastics should be uniform?—Certainly.

826. And that teachers, or whoever were to teach, should be brought up to that standard?—Yes.

827. You name the standard of Aldershot?—Yes, as far as you can go.

828. *By Mr Shaw Stewart.*—There are just two points I should like to ask a question upon. You said that at the age of twelve children could be taught gymnastics?—Yes.

829. We had a witness before us who gave his evidence to the effect that a child should not be taught gymnastics until he was fourteen. Can you give us any reasons why you think twelve is a suitable age to begin, as against a later age. I think you added that they might begin hard work at regular gymnastics at twelve years?—Yes.

830. It is rather an interesting divergence of evidence if you could give us some definite reason?—I wish I could give you what might be called evidence. What I can say is, that in reformatory and industrial schools they do begin applied gymnastics at twelve.

831. Without any harm?—And I have seen no harmful results. Possibly, when I take out my next census, as I hope to do in three years' time, we shall see the position then of those who last year were measured at fourteen years of age and younger, and I shall be able to see whether the schools who have obtained the early training in gymnastics have suffered at all. I have had, in one or two of my schools, to express condemnation of teaching applied gymnastics to boys of eight, but I must say the results were astonishing. The boys were young acrobats, but I do think that a mistake, and I mean to stop it as far as I can.

Cruden's system.

832. Then one other question: Are you familiar with Colonel Cruden's system of training?—I am not familiar with it, but I know of it.

833. What I wanted to ask was, whether you consider it to be founded on the Aldershot principle, because you laid great stress on the Aldershot school?—Yes.

834. Do you consider that Colonel Cruden's system is as good as the Aldershot principle; I will not say as good, but at any rate as founded on those principles?—Yes; I think it is on the same principle.

835. *By Sir Henry Craik.*—You mentioned, I think, Mr Legge, that in the Stranraer schools the athletics were of specially good quality?—Yes; they are good, and they are particularly interesting, as showing what can be done under awkward circumstances.

836. In what way do they show that?—Well, they are getting a pretty complete course of both free and applied gymnastics, although they have no gymnasium and a most indifferent play-yard, and no instructor. The superintendent himself is a man of great energy and an old soldier, and has a thorough knowledge of the system, in fact, he was gymnastic instructor at Mossbank Industrial School; he turns benches aside, and so on, in one of the big workshops, and rigs up the apparatus there.

Grants.

837. Can you in any way, in your schools, encourage it by differentiation of the grant?—I am sorry to say I cannot.

838. The grants do not vary according to the results at all?—They do to this extent, that, in the case of the highest contribution we pay, a certain amount is supposed to be dependent upon efficiency of management, which is a very vague term.

839. But you may include in that physical exercises?—In future we might—yes.

Reformatories: ages of boys.

840. What is the age of the boys in your reformatory schools?—In the reformatory schools—the senior schools—the bulk of the boys are admitted at fourteen, and they can be committed up to the age of sixteen; they stay at the school until nineteen.

841. And have you no boys under fourteen?—Oh, yes; a few. In the reformatories and in the industrial schools—the junior class of schools—the bulk of the boys admitted are above eleven, and the maximum age to which they can be detained is sixteen. There are two classes of schools, as it were, senior and junior.

842. Then your observations cover age from about eleven to nineteen?—Oh, from six to nineteen, because some few are admitted earlier than ten or eleven. I was giving you the ages at which most would be admitted.

843. Is there any payment made by the parents for those boys?—Yes; we collect contributions from the parents. The class we deal with being the criminal or the semi-criminal class, the collection is a matter of considerable difficulty, but, as a matter of fact, we do collect over £1 a head per annum. We collect about 6d. per week per child; but bearing in mind that the bulk of the parents from whom we collect money are not receiving in wages anything like 20s. a week it is a fairish amount. I mean, it is not so insignificant as it looks.

844. What I rather wish to arrive at was the comparative burden between the different authorities.

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The parent pays about £1, and the local authority and the imperial grant together—how much would they amount to?—You are taking Scotland now?

845. Yes?—Well, in Scotland, in reformatory cases, the Government pays £10,000 where the rates pay under £3000.

846. What is about the amount per head?—The amount per head is £18 per annum.

847. Of which the Government pay about?—The Government pay about two-thirds.

848. Yes, rather more than that if they pay £10,000?—Ah, but there are other things to come in. The schools make money, and there are voluntary subscriptions.

849. Do the amounts spent in the different reformatories vary very largely per head?—They do not vary very much in Scotland.

Where food insufficient, corresponding inefficiency of the physical training.

850. Do you think that the amount of food, the sustenance, and the amount spent in food, is about the same in the various institutions?—There is no great variation; the cheapest are the Roman Catholic.

851. Do you find anything in the physical condition of the children that corresponds to that cheapness? Is there any insufficiency of food in those more cheap institutions?—I am afraid there is.

852. And do you find that with that insufficiency of food, or something tending towards insufficiency of food, there is a corresponding failure in the physical development of the children and in the excellence of the physical training?—I know this, that the death-rate is higher in the cheaper schools.

853. And probably the physical exercises are less satisfactory?—Yes.

854. You never heard from managers whether such physical exercises have increased the appetite and have led to larger expenditure for food?—No; but I have generally found that the same spirit which will lead a body of managers, for instance, to provide a gymnasium, will lead them to improve the dietary.

855. Of course, you have in these reformatory schools conditions generally of food and premises of salubrious situation, which you would not have in the ordinary town schools?—Well, I should not think our school buildings compared favourably with the public schools, certainly in the big towns.

856. Yes; but surely the living-rooms of the children will compare favourably with the living-rooms of the ordinary children in towns?—There I agree.

857. So that these scholars are living under more healthy conditions generally than those of the ordinary pupils in our poorer schools?—Yes; they are.

858. How long, as a rule, do they stay? Do you give those licensed out?—In the junior schools, the industrial schools, the average term, I suppose, will come to about four years.

859. But sometimes now under the last Act they may be licensed out after three months?—Yes; but still, as many of them will be committed for five or six years, the mean will come to about four I should think, but in the senior schools or reformatories the mean term will come to less than three.

860. You can arrange their time? You can see that they do not waste their time? You can see, at all events, that they do not eat unhealthy food, which cannot be done in the case of ordinary children?—No; there is control in that regard.

Disciplinary results good: much can be done under bad conditions with a system properly applied.

861. About the disciplinary result of this training, have you found that very good?—Very good. I mean that in two respects I think I can say it is absolutely true that in the last few years the serious difficulties in the management of those schools have sensibly lightened. One is the question of immorality, as to which one has always to be on one's guard. Well, since physical training has been pushed vigorously, there has been a decided diminution in the amount of immorality one has detected. Then another very important point is that absconding has almost disappeared. Hardly any one of these institutions has any real means of restraint, that is to say, in almost every one of them if a boy wishes to go, he has only got to take his hat and go, but the training and life seems to suit their characters and dispositions. There is practically no absconding at all now.

862. Of course you draw from a class of children who are perhaps, as they are physically, also morally below the average?—Yes; and very decidedly below, physically and morally, but as regards certain human qualities of an estimable kind, such as courage, I am convinced they are incomparable; they have reached a higher state of development than the better cultured classes.

863. What sort of courage?—Well, they are absolutely fearless. At gymnastics, for instance, they never have to be coaxed to tackle anything. The trouble of the instructor is always to keep them back from attempting anything straight off which will break a limb if they are not skilful.

864. Well now, to what do you attribute that—to their being left freer and perhaps more neglected, and resting upon their own resources?—Yes; because they have had to fend for themselves in the streets. In fact they have led the life of young Boers. They have had to hunt for their meals, and it has done them good in certain ways.

865. The general result of your experience may be summed up in this way: that even with very unpromising physical conditions and moral conditions, and previous training, an immense deal can be done by a system properly applied?—Quite so.

866. And with very good results?—Certainly.

867. Then with regard to exercises in self-defence you said that you were in favour of these. What results do you find in your experience they lead to amongst the scholars in these schools? Do they lead to roughness often?—No; in some schools where boxing is allowed there is practically no fighting. I believe it is the natural result. Speaking, of course, from the reformatory managers' point of view it is an extraordinary good discipline for the temper; and then I believe, if you carefully train a boy to strike a fair blow, his instinct will prevent him from striking a foul blow.

868. And he will not get into a row—into a street row—so quickly if he knows something of the science?—Oh, no.

Compulsory strongly advocated for youths up to eighteen.

869. Then with regard to the compulsory question, you have no doubt whatever it would be greatly for the advantage of youths up to eighteen that they should have some sort of compulsory training?—Yes; I do.

870. And you do not feel that the ordinary compulsory methods which are applied to younger children would be possible there?—I think they would be possible.

871. But not exactly in the same way. You substitute for these ordinary methods a poll tax or a certain fine for failure?—Yes.

872. Upon whom would that fine fall, the youth himself or his parent?—It ought to fall on the youth.

873. At eighteen one would think it ought to. If he did not pay it you would almost need to resort to imprisonment?—Yes; or you might prevent any employer taking into his employment any youth who could not produce his certificate on the same principle that the factory acts are worked.

874. You have not formed any idea as to the amount of the fine?—No; I should put it low to start with. By low, I mean a sovereign.

875. Yes; that is just about the fine that might be placed upon failure to send a child to school?—Yes; but I think in time it would be possible to stiffen that a great deal as people appreciated the position.

876. But for a lad between sixteen and eighteen you would put it upon himself?—Yes.

Physic... trainin... moral ...

877. *By Sir Thomas Glen Coats.*—You talked of the superior mental and moral effect of physical training. Do you, in this way, account for the high percentage of boys who turn out well after they leave the industrial and reformatory schools. Do you trace a connection between that and their physical training. We know, of course, that the percentages are high?—I think I should say that what you would find is that where the physical

training is highly developed, the boys turn out better. It is most certainly the case with reformatory schools. That can be proved to demonstration.

878. Would that apply to girls as well as to boys?—Well, on that I should like to wait for more experience. It is only in the last year or two, but particularly at this reformatory at Glasgow and in another at Sunderland, that the girls have really been put through a scientific course, and I should like to watch events.

879. With regard to this compulsory physical training between sixteen and eighteen, I suppose you would propose to do that in evening schools?—Certainly.

880. Not during working hours?—No; the best work done in all the Y.M.C.A. gymnasia in the country, and the famous gymnasia in Dundee and Aberdeen, is all done at night, or most of it done at night.

881. You said, I think, that you proposed to associate this with the volunteer system?—Yes.

882. How would you do that; I was rather puzzled to know how you would associate the two?—I cannot say I can see a way. I rather hinted, I think, that the volunteer system wants to be swept away, and something else take its place.

883. *By the Chairman.*—The volunteer system?—The volunteer system—yes.

884. You would put it in place of the volunteer system?—I would substitute some arrangement calling it civilian training, or calling it anything you please, for the volunteer system.

885. By volunteer system you mean serving in Volunteer corps?—Yes.

886. You must define it a little bit, I think?—I mean the system that has obtained for the last thirty years.

887. But I mean only as applied to Volunteer rifle corps?—Yes, to Volunteer rifle corps.

888. *By Sir Thomas Glen Coats.*—Supposing you had these evening classes for physical training, and you allowed those who passed successfully through these classes to go into the Volunteers, and we had at that time a compulsory system for the army, these young men might be exempted from that training, having got their physical training and joined the Volunteers, would that be a practical scheme?—I think they ought to have something beyond the physical training indoors. I think they ought to do a certain amount of such work as route marching and skirmishing, and pass shooting tests.

889. These men would be privileged to go into the Volunteers, of course, as at present constituted, or varied, instead of being called up to serve two years in the army?—Yes. I think that would be a reasonable system.

890. Supposing those boys who pass a successful examination in gymnastics were allowed as a privilege to join the Volunteers instead of going into the army under a compulsory system of army recruiting?—I think that would be a reasonable system, but I do not believe you will ever get compulsion.

891. *By the Hon. Thomas Cochrane.*—You have told us that out of about every six boys in the reformatory and industrial schools one went into the army, or else the navy?—The army or the navy, yes. Very few from the reformatories go into the navy, because the navy will not take them.

892. Can you tell me how many boys there are in those industrial reformatory schools? I do not think we have had that figure?—I can tell you the figure that left in those three years. That, perhaps, will do.

893. Yes!—The total number that left the schools in the three years 1897, 1898, 1899 was 13,390, and of these 2382 entered the army or navy.

894. Can you tell me why it is more definitely that the navy will not take boys from the reformatory schools?—Well, because the Admiralty regard the navy as a sort of Young Men's Christian Association. They are afraid. They say no one will be admitted into the navy who has not got a thoroughly good clean sheet. It is monstrously hard on the reformatory boy, because, as a matter of fact, we know cases where relatives are in the navy. I know of a lot of cases of reformatory boys who have brothers or cousins who are in the navy. The damning fact against the one who is in a reformatory is that his record is open to inspection; it is known.

895. *By Sir Henry Craik.*—But you said very few join the navy. Do any join the navy?—Oh, yes.

896. How do they get in?—Well, that I do not know, but what I do know is that the regulations will not keep a fine fellow out of the navy if he wants to get in. The number is, of course, few, and, after all, it is a regrettable thing that a fellow should forswear himself.

897. *By the Hon. Thomas Cochrane.*—They would be more numerous if they got a little more encouragement?—Yes. The bulk of those who join the navy, of course, fulfil all the Admiralty requirements, and they come from the junior schools. They have not been guilty of crime. The Admiralty can say with regard to them—announce to the parents and the country generally—that they only take boys of good character.

898. Your boys in the army, generally, do well, do they?—They do extremely well. The proportion of non-commissioned officers from one school—I may mention that fact—that from one school, of the old boys who have joined the army, forty per cent. are non-commissioned officers.

899. *By the Chairman.*—Forty per cent.?—Forty per cent. That is to say, they have taken it up as a profession, and they do well.

Physical training: mental and moral effects.

900. *By the Hon. Thomas Cochrane.*—You speak very highly, and with great experience, of the marked improvement that results to the physique of the boys from your system of drill and training, and there are two questions I should like to ask on that. Do you find any marked mental results as well—mental and moral results—from the training?—Yes. I find, as I say, that the moral results have most distinctly improved. In fact, a school where there is first-rate drill and gymnastics is quite a different place from one of the old-fashioned reformatories, but I have got a few still left for the purpose of comparison.

901. *By the Chairman.*—Would you mind mentioning those, not, perhaps, under that head, but so that we might take them down in case we wish to visit them?—If you want to see unprepossessing boys, go to the Reformatory at Parkhead. Still, they are making an effort. They are crippled for funds, but they are making an effort there. But there was no comparing those boys last year with the lot you would see at Stranraer, or with the Kibble boys coming in from a cross-country run. Then I also find that almost invariably where you have a good gymnasium you have a good schoolroom.

902. You mean, as far as brains are concerned?—Yes; the things hang together.

903. *By the Hon. Thomas Cochrane.*—It is a point that the best-drilled boys are the cleverest?—Certainly. I find that the best gymnasts are the best in school.

Training: course for boys fourteen to eighteen. Suggestions.

904. I should like to ask you what course of training, from your experience, would you give to boys in the Board schools, from fourteen to sixteen and sixteen to eighteen, who have left, who are beyond the school age?—I should give them gymnastics free and applied, only the applied gymnastics would go further, and I should encourage their playing games. I have guarded myself against the idea of suggesting any official recognition of their games. I do not think that would be necessary in their case; but I should also like to see them doing some work, such as route-marching, skirmishing, and something of the military drill which I deprecated in the case of the boys of school age.

905. And what length of time would you devote to that?—Well, supposing the evening continuation school, with three evenings a week, I would either give one evening at the physical drill, or I would give one-third of the time in each evening. I would give, roughly speaking, one-third of the whole time; but, as regards the open-air work, I think that ought to be done on Saturday half-holidays.

906. There was one other point. You tell us that

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Town and country children: comparisons in physique.

you could not, from your experience, see that country children in physique had any very great advantage over town children, and I wanted to know did you compare the country children—what class of country children would those be?—I was going partly on the figures I got from my own schools, and also on those of the Anthropometrical Committee. There they took elementary school children.

907. Ordinary Board school children?—Ordinary Board school children—Yes. And they divided these children into classes, agricultural labourers and artisans in towns, then factory hands in the country and factory hands in towns; and, at the age of eleven, the agricultural labourer's child is less than half an inch taller than the town artisan's child.

908. That is on an average?—Yes. The agricultural labourer's child has just about half an inch advantage over the child of the factory hand in towns.

909. You have drawn it not so much from your own observation, as from the tables you have studied?—But, then, from the figures I got out myself, I found that in our farm schools, after a few years of training, the children had not any marked advantage over those in the industrial schools in towns. The country schools, it is perfectly true, had been hugging the delusion that healthy work in the open air in the garden was quite enough. These figures seem to show that, if in a town school you only give attention to gymnastics, swimming, and open-air games as far as you can, you can really establish a fair equilibrium.

910. And, of course, your observations are the more favourable, that I presume the food is practically the same in the town and the country schools?—Practically the same.

911. Practically the same?—Practically the same. Any advantage would be in the shape of more milk in the country schools.

912. Which makes it all the more significant?——

Physical training: good moral effects.

913. *By Mr Alston.*—You mentioned that this physical training is co-equal with the moral training, that is to say, physical training produces good moral results?—Yes.

914. But we know that in the reformatory, and even in the day industrial schools, the moral influence secured in the ordinary teaching in the schools is perhaps in greater proportion than in the physical training. Do you not lay stress upon that as a means to the same end?—Oh, yes; but what I mean is, that I do not think that now there is more moral enthusiasm in the work than there was five or six years ago, but there is more physical influence brought to bear. Therefore, I think it fair to ascribe what, I believe, is perfectly true, an improvement in the tone and *morale* of the children to the increased attention given to physical training.

915. There may have been a small amount of improvement before, but since the introduction of complete physical training there has been a greater?—I think there has been a greater improvement; yes.

916. At Mossbank they do gardening and field work?—Yes.

917. So those boys there have the double advantage?—Have the double advantage.

918. But you still think that the mere outdoor exercise in digging is not sufficient. It will not produce the same results?—I do not think so.

919. Then another point. You gave interesting figures as to the boys who went into the army. Can you say from which schools they went? Was it from the reformatory or the day industrial schools?—They went from all schools, including the day industrial schools. They went from the reformatories and the boarding industrial schools.

920. But is it not a fact, with regard to the Rottenrow Day Industrial School in Glasgow, that it is a special feature of that school?—Yes, of all the day industrial schools in the country, that one stands second, I think, on the list as to the number of soldiers.

921. Can you tell what tempted the boys to go into the army? Was it the drill, or did they not go into the bands?—About one-fourth of the boys who went into the army entered it as musicians, but many left the band for the purpose of seeking promotion in the ordinary course.

922. Then, as to the training ships, are they accounted reformatories by the Government?—Not the 'Mars' and the 'Empress.'

923. But they are reformatories?—No, they are not; they are industrial schools; they are junior schools.

924. We threaten boys in the day industrial schools who are very disobedient, and will not be amenable, and continue to be truant at school, and say, 'Now, 'boys, it will be the "Empress" or "Mossbank."' Still, they are not in that sense reformatories?—No.

Food reform

925. Another point. You seemed to indicate that the food was not sufficient in these schools. Is that the case?—I will not say that, but I do not think the dietary is well enough thought out in some cases.

926. Yet, where will you see rosier-cheeked children than in the Industrial Schools?—In the majority of them, I admit, but I am not now thinking of a few starved schools where the death-rates are high. I have taken out the death-rate for a long series of years, and I am anxious to see things improved.

927. If we improve the dietary, can we ask the Commissioners or the Government to give us more money?—Sometimes schools are accused of being extravagant in their feeding. Well, I think there is a claim on the Government for a higher grant if a Government inspector is instructed to make requirements for improvements.

Contin... Classes requir... physi... traini...

928. *By Sir Henry Craik.*—You said, Mr Legge, that you thought that what was required for boys between sixteen and eighteen was one evening of an hour a week out of three evenings a week. You thought that would be sufficient?—One evening out of three, or a third of the time on each of three evenings; I imagine you could hardly compel attendance for more than three evenings a week.

929. But your limit of compulsion would be just one evening a week?—Yes, for purpose of physical training.

930. *By the Chairman.*—Now, I have got two or three questions I want to ask you to start with. Would you mind telling the Commission what your previous training and experience was before you became an inspector?—I was at school both in Scotland and England. I was at the University of Oxford. I was always, more or less, devoted to athletics; still, I was a scholar of my college. Then I entered the Civil Service, first of all in the Admiralty, and went on thence to the Home Office, and I was secretary there to the Inebriates Committee and also the Prison Committee, so I got a general insight into that sort of work. Then I became private secretary; and this post being vacant, and one which rather attracted me, I applied for it and succeeded the late Colonel Inglis.

931. As inspector of what?—As inspector of reformatory and industrial schools.

932. Where?—Great Britain.

933. And Ireland?—No.

Physi... exerci... runni... for ch...

934. I suppose, to start with, you would allow that the best of all physical exercises, really a drill, is walking, is it not?—No, I would not; I think running. I think walking for a child is a tiresome exercise. It wearies, without working the muscles sufficiently.

935. Supposing a man can start, or even a girl can start, and walk a proportionately long distance, and is in the habit of doing that to a large extent, do you not think that the physical development of training is better kept up by walking exercise than anything else, or do you not think so?—No, I do not. I think, after the age of thirty, but up till then not.

936. You mentioned, to begin with, about the national system in vogue in Aldershot?—Yes.

937. That system, of course, is enjoyed by the Scotch people as well as English?—It is the British system.

938. It is international so far as Britain is concerned?—Yes.

939. You regret the non-development of cricket?—No, I do not regret it.

940. Well, you say that cricket is not developed. Perhaps I should put it in that way?—Yes.

941. Do you mean that to apply principally to schools under your inspection, or do you mean it to apply to Scotland generally?—Oh, I mean it to apply to Scotland generally.

942. When you say it is not developed, do you mean it is not successful, or that there are not many cricket clubs?—It is not much played.

943. Do you happen to know that there are an enormous number of cricket clubs, great and small?—I learned the game there, but it is not played to anything like the extent that football is.

944. But at the same time football would not prevail in summer, not to that large extent?—Well, I do not know. I have seen football being played hard in Dundee in August.

945. Oh yes, in August, I daresay, but before that? What I mean is, I rather wished to make the point that there is no reason why cricket should not be played under certain conditions in the summer months in lieu of football?—Exactly.

946. When you say cricket is not developed I rather take issue with you, because I happen to know, to my cost I may say, that there are an enormous amount of cricket clubs in Scotland?—Well, it is not much developed in our schools.

947. You mentioned about Morris Tubes. Do you happen to know the approximate cost of putting up a Morris Tube? Something under £100? May I put it at that?—Oh yes, much less than that.

948. At about £50?—I think it could be done for about £45.

949. You said that there was a certain superiority in English development at a certain age to what there was in Scotland?—In the English reformatory or senior schools.

950. At a certain age, I think you said?—Yes.

951. Do you mean that that is the result of more food being habitually eaten in England than what is eaten in Scotland? Do you gather that it is the custom of children in England or young people in England to eat more than the same class would do in Scotland?—No, I do not know that; but what I do know is that there is a great deal more spoon food in Scotland.

952. Either kail——?—Well, the meat is all minced. I know there are schools under my inspection which never have a knife and fork dinner from one year's end to the other. They eat their porridge, of course, with a spoon, and they eat their broth with a spoon, or they eat their mince collops, or whatever else they have, with a spoon.

953. On that point do you happen to know whether there is a greater consumption of milk in Scotland than in England?—No, it is about the same in our schools.

954. There was one rather important thing, which I think perhaps Mr Alston would have referred to about the Boys' Brigade. You recommended that they were to be closely linked with the school system?—Yes.

955. As a general rule, have you considered that the Boys' Brigade is more or less sectarian in character, that they have a certain amount of religion instilled into them, of different sects. In large measure I think I am right in saying that. Being a religious movement, and the ordinary school movement being distinctly a non-religious movement, how could you link them together. I mean, I see a difficulty in it. I do not know whether you do; I want to ask you?—I do not realise that difficulty.

956. *By Mr Alston.*—I may say, my lord, you cannot link them.

957. *By the Chairman.*—No, I wanted to know whether the witness had realised it?—Well, that being so, I will go so far as to say that it is the duty of the managers of schools to promote cadet corps.

958. Yes; but that is a difference, is it not?—I meant that there should be a supplemental organisation to the Boys' Brigade; only I thought that the Boys' Brigade corps was an organisation which had taken root, and that it would be well, if possible, to attach one's self to it.

959. Now, when you say that time for all these things, in the way of physical training and so on, should be found in the intervals of recreation out of school hours, do you mean by that the holidays—Saturday?—Yes; that is, for field sports. I think half an hour three times a week——

960. Three times a week?—Half an hour three times a week for free gymnastics or applied gymnastics should come out of the school time.

961. You are aware that there is a great deal to be done when the children get home at night. Those who are at school there, their work is not over when they quit school?—Well, they would be all the better able to do it if they had this half hour three times a week.

962. Yes, but will there be time, that is the question?—Oh, yes; you mean for the field sports and that sort of thing. Q. Will there be time for all this work to be done?—A. I should think so. The jumping in the pit in the playground I should think would be a matter that they would just do in their ten minutes' recreation.

Uniform system might relieve burden on teachers.

963. Now, as regards teachers; with all these different new proposals, if a teacher of a school is to know all these things, which, I believe, you say he might do or she might do to a large extent, it will naturally lead to a very large increase of salaries of teachers, will it not?—It would.

964. I mean that is a point to be raised here?—Yes; but I indicated my preference for the real physical training being done by the school-keeper. Most schools have to appoint a janitor.

965. But not in the country; in the town, I agree; but not in the country, in the wild districts—in the far away parts?—No.

966. You must fall back on the teacher; there is nobody else?—No.

967. Even in the country the teacher needs a little more than he did before. He would want more money?—Well, the way to relieve the teachers, as I was saying, is to have uniformity of system.

Girls require less severe training than boys.

968. I want to ask you a question about the girls. Do you consider that they, in the same measure as boys, if under comparatively severe physical training, require more food too?—Yes; but I do not think they ought to have anything like the same severe training that boys should.

969. But it may be comparatively severe to what they have been accustomed to?—Yes, quite so.

970. They do require more food in the same way?—They do.

971. As far as you know?—Yes, certainly.

972. I suppose you are a great believer in physical development—muscular development, I will put it in that way—being a good thing?—Yes, I am.

973. But you are aware, I presume, that it leads to a considerable increase of rheumatism in later years?—I was not aware of that. I daresay that would be the case if you went in for simply muscle-developing exercises. The danger of that is that a man becomes muscle-bound, as they say; but then these free gymnastic movements are calculated to develop all sets of muscles. I should have thought you might suffer from rheumatism if you developed some particular sets of muscles at the expense of others, but if the development is uniform, I think you might possibly hope to be saved.

Uniform system recommended.

974. Then there is one very interesting point which I think quite within our province to ask. The whole thing that you have recommended, for it is a most interesting one, has been rather to get everybody—all classes, both boys and girls—to be brought up in an entirely uniform manner, is it not?—Yes.

975. Do you not think that would destroy individuality to an enormous extent in the country; and if so, do you think it would be a disadvantage to the

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country generally that individuality should be destroyed?—No; I do not.

976. You would like everybody to be alike?—No.

977. To walk by a common rule—I put that case. I take it that is one of the things?—No; but I think, as a compromise, you will get better results if you have uniform physical training than if you have a free development of idiosyncrasies, and I do think that a certain amount of uniformity is desirable in this country.

978. From a national point of view?—From a national point of view. I think we are suffering from individualism.

979. May I ask, are you acquainted with the Swiss system of raising what I may call their wonderful army?—No; I am not.

980. I will just read this. They say, 'by law the 'Swiss raise their army by the simplest possible means, 'and by laying on the citizen a burden wonderfully 'light in comparison with the results obtained. By 'law every adult Swiss is liable to serve. In practice 'the doctors select only about 52 per cent. of the 'strongest and fittest, and the remainder pay the tax 'instead. As a matter of fact, this tax is not exacted 'from the very poorest, and the rest bear it cheerfully 'as a natural national burden, for which they know 'they get their money's worth.' Have you heard of that before?—Now you read it, I do remember to have heard of it.

981. Was that at all, may I ask, in your mind when you advocated something in the way of a poll tax?—It was not. It may have been unconscious cerebration, but I quite agree with the advantage of such a system.

982. I am sure the whole Commissioners are very much obliged to you indeed for your most interesting evidence.

983. *By Professor Ogston.*—Would you kindly allow me one brief question, supplemental to one which your lordship asked, but which did not seem to me to be exhaustively answered. That was, Mr Legge, in your testimony you stated that the physical training gave rather better results than the Scotch?—In the one particular class of schools.

984. Is there any respect in which you can say that we could learn from the English system anything, and that we could introduce into the Scottish system, which would render them equal?—Simply the provision of fully-equipped gymnasia.

The witness withdrew.

Mr J. C. Colvill, examined.

Mr J. C. Colvill.

985. *By the Chairman.*—You are one of His Majesty's Inspectors of Schools for England?—I am.

986. Have you been so long?—About twenty-seven years.

987. And consequently, of course, have a large experience of schools in England only?—In England and Wales.

988. I should like you to go through the *précis* you have prepared, so that the Commission may hear?—I wrote this very hurriedly last night on receipt of the telegram, and I am not sure that it is always lucid.

989. You are not bound to stick to it, if you like to elucidate it on the way.—

Physical exercises in England and Wales: history, development, existing conditions.

For many years 'suitable physical exercises' have been recognised as part of the curriculum in public elementary schools in England and Wales, without, however, any direction as to the time to be devoted to them, or as to the character of the exercise.

It was only in the Code of 1900 that explicit requirements were made and instructions issued to His Majesty's Inspectors on the subject.

Up to 1900 the provisions of the Code were practically inoperative in the great majority of schools.

His Majesty's Inspectors had, as a rule, little knowof the subject, and in the absence of definite requirements, seldom asked to see what, for one reason or the other, they were not prepared to criticise.

Some of the larger School Boards did appoint drill instructors, who evolved and often published systems of their own, and in some cases were allowed to require teachers to learn their system, and to assist in giving the teachers instruction. A notable instance is the London School Board, which has always done so.

In most of the men's Training Colleges Volunteer corps existed, and on such instruction as was obtained in these or in local Volunteer corps most new teachers had to depend for knowledge of drill, but of drill unaccompanied by physical training, while they received no training as instructors. I think I may say that this is generally the case still. Women teachers were generally attracted by the various systems of musical drill compiled by publishers, and designed mainly for display.

Except here and there, drill was generally intermittent, and of no physical benefit to the scholars, and was taken generally in the desks, with children standing too close together, and almost avowedly as a mere distraction rather than as a profitable subject of instruction.

Here and there the personal interest of a manager, or the personal liking for the subject on the part of a head teacher, or under some of the large Boards, the personal keenness of the Board instructor, produced better results, but, speaking generally, there was no systematic physical training, and possibly in a given dozen schools no two would be taking the same system, and none would be taking any one system in its entirety. That was what prevailed up to 1900.

In 1900, for the first time, physical training, as such, became 'an integral and important part' of the school curriculum. When I say school curriculum I refer to all elementary schools, whether voluntary schools or Board Schools—all schools under the Code.

The Board of Education, moved by the Lads' Drill Association, published the 'Model Course of Physical 'Training' as a minimum obligatory on all schools, except those in which, on the application to the managers, the Board should expressly sanction the use of some other system 'having the same scope and 'aim.' At all other schools the model course is supposed to be obligatory. That was on the initiation of the Lad's Drill Association—Lord Meath's Association.

The Board also required that this training should occupy 'not less than one hour in each week, and not 'more than half an hour on any one day,' that it should be given by the teachers of the school, and in the open air.

Other recommendations as to (1) the training of teachers; (2) the issuing of certificates to those who proved to be competent instructors; and (3) the provision of qualified inspectors, the Board of Education has not, so far, adopted.

This step, on the part of the Board of Education, has, on the whole, met with a favourable reception from the great majority of the teachers, and has had a marked effect upon the aim of physical drill in schools, and upon the interest which both H.M. Inspectors and teachers are giving to the subject. Certain circumstances militate against it.

1. The vested interests of certain publishers and of some drill instructors under large Boards in the sale of drill-books published or compiled by them. The drill instructors, I may say, of large Boards have obviously a considerable local sale for their work, which they would be sorry to see interfered with.
2. The want of training of the great majority of existing teachers.
3. The absence of any provision for training teachers, or for distinguishing those who have had such training.
4. The absence of expert inspection and supervision.

5. The too frequent lack of adequate playground, and the overcrowding of schools with desks, so that space for drill is difficult to obtain. I mean desks which are practically immovable on account of their weight.

990. (1) The Board of Education proposes to publish a new illustrated edition of the 'Model Course,' which it is hoped may be as attractive as those published by private persons. But the real remedy is to make the 'Model Course,' which is identical with that which has been introduced with such success in the army, universally obligatory, while allowing it to be supplemented by private systems.

(2) Competent physical instructors at a moderate cost should be provided for all acting teachers who desire instruction. As a matter of fact, the teachers in my own district have shown a very great desire to qualify themselves. As a result of an exhibition last year at Aldershot Gymnasium, at which Sir Henry Craik was present and a large gathering of teachers, about 800, they on their own initiative, without any pressure from me in any way, engaged instructors from among the men at the gymnasium. There have been no less than twenty-three classes in my district, and at least 700 teachers drilling once or twice a week under these instructors, in West Surrey, and Sussex, and they not only attended, but they paid for the instruction themselves. It having been ruled by the Board of Education that school funds were not available in any way for the purpose, the teachers paid. Most teachers had to pay as much as 10s. and all their travelling expenses, and in spite of this, they formed and attended these classes simply because they recognised the advantage of it. The same desire, to qualify as instructors in the subject, has been shown by teachers in several other districts.

991. *By Sir Henry Craik.*—Is there any possibility of getting a grant for these classes under the English Code?—No; none.

992. They have never been opened as Continuation Classes?—No.

993. Do you know Article 91 (d) in our Scotch Code?—No; I have heard of it.

994. You know that we have several classes of that sort for teachers of physical instruction, where there are authorities and expenses paid?—Yes, so I have understood. I have tried to point out that that was worth doing in this country, but, so far, without success; and it has even been ruled, as you know, that School Boards may not help the teachers out of their funds. That is in connection with the Cockerton judgment.

995. But could not the County Council or any other local authority establish them?—They could, but, so far, I have not been able to find any County Council that would do so. With our own County Council in Surrey I have tried. They have been very good at helping teachers in other respects, but at that they seem to draw the line.

996. It is largely the County Councils in the case of Scotland. We have the same difficulty in School Boards. School Boards can hardly train teachers; we do not think that it is the function of School Boards to train teachers for the whole country?—No.

997. In the Continuation Classes in England have you got classes for the boys apart from the teachers, where there are classes allowed?—Oh, yes; they exist in the evening schools. This year I know nothing about the evening schools at all. The evening schools, you see, with us have all been transferred to South Kensington.

998. Who inspects them?—Chiefly our sub-inspectors.

999. But do you not have a general supervision over all the schools in your district?—Not at all; not the evening schools. In September of last year the evening schools were all transferred from Whitehall to South Kensington.

1000. Are they not assigned by you to the sub-inspectors?—No; we simply lend our sub-inspectors to South Kensington for so many nights in the year.

1001. I thought South Kensington was amalgamated with Whitehall by a recent Act of Parliament?—Well, I believe that is so.

1002. And now the fact is that apparently they are divided?—They appear distinct as much as ever, except in name.

1003. Then, really, your observations are confined to the children of school age up to fourteen?—My most recent observation. Of course we had the evening schools till last year.

1004. But you had, no doubt, formed your opinion as to the advantages of such classes for boys of older than school age?—Oh, yes; I have a strong opinion in favour of them.

1005. Have you an opinion of such training being made compulsory?—Yes. I think I should advocate it.

1006. *By the Chairman.*—In what ages—up to?—Between leaving the elementary school and—

1007. Fourteen to eighteen?—Fourteen to eighteen, I should say.

1008. *By Sir Henry Craik.*—Fourteen to eighteen?—Fourteen to eighteen. I should think there is no doubt that, at present, those four years are years after leaving school of great falling back on the part of all the boys. Even boys who have been hard-working, intelligent boys at school go to pieces in those four years. Of course, you would have to institute compulsory attendance at evening schools altogether to secure that, would you not?

1009. Yes; and you think that public opinion, so far as you have been able to gauge it, would not support that?—I doubt it; I doubt whether it would in this country.

1010. But you think it would be for their benefit?—Oh, it would be for their benefit certainly.

1011. Taking your own district. Do you think public opinion would be as much against the application of compulsion to physical training as to other forms of school training in these years?—Perhaps if you took it at this particular moment—no; but I think that, later on, it might be. I am sure it would have been four years ago or five years ago.

1012. But if it could be proved that it really imposes no undue burden upon the youth, that it did not lessen the resources of the country by interfering with employment or work unduly, that it was certainly necessary in order to preserve the object for which we strive in our elementary schools, do you think public opinion might not be brought over to agree?—I think it might be; but such proposals would be very easily misrepresented to the class of people that would be chiefly affected.

1013. At all events, public opinion would prefer that rather than a compulsory system of military training?—I think so, if put strongly as possibly the only alternative.

1014. Whereas we require, if necessary, the whole time, and prevent employment at all for boys up to fourteen—after fourteen we leave them entirely free—and we consider it an undue interference with their liberty if we ask them for only a single evening in the week for their physical training?—My own personal feeling would be distinctly in favour of it, but there probably would be a fight over it.

1015. Having studied the subject, as I know you have done, what form would you think this physical training for such youths should take? If you have a similar physical training to what you have in the elementary school now—that is, where the military element may not be too marked—you would get rid of a certain amount of the objection?—I would like to see an avowedly military form of training. Military form of training.

1016. The Saturday afternoon might be used for that?—Yes.

1017. You have, I think, a great deal of experience as to the expenses this physical training involves in schools?—It is most trifling. Quite a large school might be amply equipped for less than a sovereign, I think.

1018. In certain cases you have school bands, have

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you not?—Well, Mr Burrows can tell you more about that. They prevail in Portsmouth chiefly; there they have school bands, I think, at nearly every school, at a cost of something under £10 for each school.

1019. Have you ever found any objection on the part of parents to their children taking part in this part of the school work?—Practically none. One has heard of such cases, but it is nearly always traceable to a reluctant teacher, I think.

1020. Or a cantankerous parent?—Here and there, of course, a cantankerous parent. There are such people, but no general objection certainly.

1021. And you think that it has improved the intellectual calibre of the schools?—Very much. It has improved their alertness of mind very much, I think, and all the teachers I have had the opportunity of talking to would agree in that strongly.

Town and country children: training equally necessary for both.

1022. And you think it equally necessary in town and in country schools?—Yes, quite as necessary, for different reasons possibly.

1023. What are the different reasons?—Well, the actual physique of the town child is very miserable. He gets no exercise to develop his frame, and he wants training for that reason. The country child is often sturdy enough, but he wants to be taught to use his strength. He moves in a lubberly, awkward way, and he has to learn to use his limbs.

1024. Do you find the want of food interferes with it to any extent in the town schools?—No, certainly, in my present district, because it is a wealthy district; there is no poverty in it really.

1025. Are you acquainted with the North of England?—I have seen some schools in Lancashire. Two years ago I went all through that part of England.

1026. Can you draw any contrast between these and the schools in the southern part of England?—No, I do not think any general contrast.

1027. *By the Chairman.*—I mean the children, the aptitude and quickness?—I certainly saw some remarkably good work, and from children who at first sight looked unpromising material.

1028. *By Sir Henry Craik.*—In the North?—In the North, at Bolton, under a military instructor in the Board Schools, and under a civilian instructor in the voluntary schools. I saw some very good work.

1029. You made, I think, a tour through England to report upon this?—Yes; all down the West of England.

1030. And was there any contrast between the attention given to it in different parts of England?—No. I think that depended entirely upon the accident of some local enthusiasm existing here and not existing there, efficient physical training was not more characteristic of one country than of another.

1031. But how would you have characterised some of the great manufacturing districts, for instance, in the Black Country and certain parts of Lancashire—was the physique of the children worse?—No, I don't think it was. It was very hard to tell, because, in my tour I only saw the schools in which physical training was taken, except by accident. In one town these would be many, in the next town there were perhaps none. I hardly saw enough of the children who had no physical training. Those who had efficient training were brought to a similar level in very different parts of the country.

1032. And what effect do you think that had upon the schools generally?—Oh, the schools where drill prevailed were very much smarter in every way. The children were more alive, and they had much more notion of organising even games and things of that sort. They had much more notion of how to organise and how to play them than in the other schools.

1033. Then the result of your journey was that it depended upon the accident whether the system was scientifically carried out, and the trouble and effort spent upon it, rather than anything in the character of the population or of the children?—Certainly, in my opinion. I believe Colonel Fox is coming. He can tell you that from his observation of the training of recruits gathered all over the country; and he told me some months ago that material of all sorts coming from London and from other places was brought by this training to very much the same condition.

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1034. It was the training really that was the important element?—It is the training that does it. Yes.

Teachers certificat... should b... granted ... course of instructi... should b... expert su... vision.

1035. *By Mr Shaw Stewart.*—Just one question on the point you referred to first, about the teachers going to their gymnastic classes. What certificate would they obtain?—None. It has been represented to the Board of Education that it is desirable to issue a certificate of some sort, and the teachers would like to have one very much.

1036. If they are keen enough to go through the course, they would naturally like to have a certificate?—Yes. At my suggestion the Lads' Drill Association proposes to organise examinations by competent people over the country, and to give its own certificate to teachers who prove competent, but a Government certificate would be valued more highly.

1037. *By Sir Henry Craik.*—You are aware that we do in Scotland issue such a certificate under the continuation schools?—Oh, yes. I know you do.

1038. *By Mr Fergusson.*—In mentioning the difficulties, I think you mentioned the absence of expert supervision—that was, over the teachers?—Yes. Over the work generally done in the schools.

1039. In other words, you think that expert supervision is necessary for physical training; you could not leave it all to the teaching staff?—No. You must have supervision to keep it uniform even in the army.

1040. Then another drawback, you said, was the want of space, which was very much aggravated by the immovable furniture and the graded floors?—Yes.

1041. But is there any strong necessity for that from a teaching point of view—for the immovable furniture and the floor off the level?—In my opinion, there is absolutely no necessity for it. Desks must be heavy, but they need not be nearly so numerous as they generally are. The graded floor is really a survival of former ages, and it is popular, I think, with architects.

1042. It renders the rooms absolutely useless for any other purpose whatever?—Precisely. The overcrowding of the desks has sprung from a misreading of the Code, more than from anything else.

Swimmi...

1043. *By the Chairman.*—In your district, is swimming ever practised?—Yes.

1044. Extensively?—Well, in every place, I think, where there is water available except Guildford.

1045. As a school physical exercise?—Yes, classes are taken.

Girls.

1046. I do not think you mentioned anything about girls; what is your experience about them, and what are your views generally on their physical training?—I believe that, up to the age at which the children leave the elementary school, there is no reason to discriminate between boys and girls whatever.

1047. And, after fourteen, should you recommend that girls should be induced?—If girls go on with it after fourteen, the same system of exercise will do with them just as well; it will not be hurtful in any way. All the girls in the Training Colleges have to go through it now, or rather they go through Chesterton's system, which is analogous, and can do it perfectly well. In the elementary schools the girls there often do it better than the boys.

Medical inspecti... none in ... land.

1048. I suppose it is correct, in England—you are the first witness we have had the pleasure of seeing from England solely—to say that there is no sort of medical examination of schools?—None.

1049. Either schools or scholars, or both—none?—None.

1050. Have you an opinion on that point as to partly the examination of buildings, partly statistics for future reference, and so on, and for measurements, and so forth, and, in fact, partly for actual ordinary health of children at schools?—I should think it was desirable most certainly; there are many school buildings that I know which would be better for being medically inspected.

1051. But, as a rule, as far as you know, in England, it is not done enough?—No, it is not done.

1052. In any systematic way?—There may be individual cases in which it has been done, but it is certainly not done systematically.

1053. Only for some reason probably?—Yes; for instance, some four years ago, Dr Crichton Browne made an inspection of the eyes of pupils at certain schools, that was simply a work done on his own suggestion.

1054. Of a Scotsman?—Yes.

1055. *By Sir Henry Craik.*—Is there a medical officer under the London School Board?—Yes, I believe so.

1056. You do not know what he does?—I cannot tell you precisely what functions he discharges.

1057. *By the Chairman.*—But now, supposing such an examination was made, it would be quite competent, I suppose, for the local medical county authorities to do so if they wished to, under the County Council?—If the schools in England are to be in future under the County Council, probably the county medical officers could arrange to do so, but I do not know whether they could do so now. During the smallpox scare there has been a certain number of cases in which medical officers have proposed to visit schools, and I have seen in the papers that certain School Boards have objected, and said that a medical officer had no status in their school; that he ought to see the children at home.

1058. May I ask whether you have any Roman Catholics in your district?—Yes.

1059. That you inspect?—Yes.

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1060. What is your opinion about their physical training in schools, as at present existing?—Here and there it is very good, because perhaps some Roman Catholic sergeant at the barracks comes and trains them, if not for love, at any rate for very little money; but a large number of schools are taught by sisters—sisterhoods—and there the physical training, as a rule, is very poor.

1061. Because they do not know anything about it?—They know nothing about it, nor does their dress allow of their doing very much; and in no case have they been allowed to go to any of the classes for acting teachers, even those for women only.

1062. Have you any acquaintance with Boys' Brigade companies in your district?—One has come across them from time to time, or one has known people who have tried to get them up or have tried to carry them on; but no direct knowledge of them.

1063. No direct knowledge?—No.

1064. And you have never seen an inspection, or anything of that kind?—I have seen that; yes.

1065. Do they happen to take the class in that we were talking about just now, between fourteen and eighteen?—Yes, but they only take a section of that class. Everything depends upon the local influence of the person who works it.

1066. It is not a generally useful movement in that part of the country?—No. It is not done at all in the parish in which I live. There were two in our immediate neighbourhood, and they have both disappeared. One was run by an enthusiast for a short time; the moment he left the neighbourhood it went at once; there was nothing left.

The witness withdrew.

Adjourned.

THIRD DAY.

Thursday, 1st May, 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr A. LOBBAN, examined.

Mr A. Lobban.

1 May '02.

1067. *By the Chairman.*—You are Mr Lobban, His Majesty's Inspector of Schools?—His Majesty's Inspector of Schools for Ayrshire.

1068. And have been so for how long?—Fully two years.

1069. Where were you before?—Banffshire, for about two and a half years.

1070. In the same capacity?—In the same capacity.

1071. And before that?—Caithness, Sutherland, and the mainland of Ross-shire.

1072. Also in the same capacity?—Also in the same capacity for about seven years. My experience goes back for twenty-two years.

1073. Also in the same capacity?—Well, not in charge of a district, but I have been an Inspector for twenty-two years.

1074. Of Board Schools?—Yes, but not in charge of a district. I had experience for a short time in Glasgow; for a longer time—five or six years—in Renfrew, Argyll; and previous to that I had two years' experience in Forfarshire and Shetland.

1075. You have some notes? You have not sent in anything in advance?—I have not sent in anything in advance. Time was rather short. I was called upon rather hurriedly.

1076. Perhaps you will let the Commission hear what you have got to say, please?—I was asked to give

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1 May '02.

Existing opportunities: varieties.

some evidence as to the existing opportunities for physical training in the schools that had come under my observation and inspection. Well, I think I may say with confidence that there is scarcely a school—I am speaking more particularly of my present district—I should say there is not a single school of any consequence where there is not some form of physical training. The value of the training varies very considerably, according to the qualifications of the teachers, and also according to the opportunities which the premises may afford for training. It varies also in a variety of forms, the physical training. In many cases, where teachers have very little in the way of qualification, the movements take the form of what we may call free gymnastic exercises—simple extension movements of the arms and body. In other places these are combined with dumb-bell exercises, bar-bell also, especially for the girls, and occasionally—they are becoming more numerous—the cases where Indian clubs are also used. In the more important towns in Ayrshire, schools, most of them, have some form of military drill. Two of the schools that are State-aided schools, where the scholars stay on to a more advanced age than in the ordinary elementary school, have a cadet corps. One, I think, has actually been sanctioned; the other is in process of being sanctioned. At least, they wish to obtain sanction for it. The training is given in the summer time, largely in the playground; in many cases, at any rate, in the playground. It cannot be taken in that way in the winter time, as it has to be taken in the ordinary class rooms, many of which, especially the older ones, are quite unsuitable, comparatively unsuitable, for the purpose. In the newer class of schools, very few of them have gone in as yet for special drill halls or a gymnasium, but they are having a central hall into which the class rooms open, and where a large amount of drill can be taken. There is one school which has come recently under my observation that has a very well fitted up gymnasium, but the Chairman of the Board is one of the Commissioners. That is the school of Alloway, which I regard as one of the very best types of schools for drill and for other purposes. With regard to the teachers, in the majority of cases it is taught by regular members of the staff, who may or may not have special qualifications for the work. In towns, a local drill instructor is frequently made use of, and in the larger schools, janitors are being freely appointed who are reserve men or retired soldiers, and part of whose duty is to teach drill. The time given is not long; I should say about half an hour a week for the formal lesson, as it appears in the time-table. No doubt, it is supplemented to some extent by class movements, and some form of drill, as the children are leaving the school and entering the school from their intervals, but, generally speaking, all that appears in the time-table is about half an hour a week. With regard to the Alloway school, I have only seen it once, and I had not prepared anything special, knowing that a member of the Commission was Chairman of the School Board and he would be in a better position to speak about it. The worst feature about the teaching of physical drill, as far as I have been able to judge, is the want of suitable qualifications on the part of teachers. In Ayrshire a very large proportion of the teachers are untrained. In the Training Colleges, special attention is paid nowadays to this subject. I am not quite prepared to say what proportion of teachers are untrained, but it is a very large proportion. I should not be surprised to find that at least half the teachers in Ayrshire are untrained, and these are the teachers whom I think incapable of teaching the subject in any rational or effective way, unless they have themselves had opportunities. Since I came to Ayrshire, two years ago, two very successful teachers' classes in drill were conducted by very competent men. One of them was organised by Colonel Cruden, of Aberdeen. He did not quite teach the class himself, but sent one of his men, and kept in touch with the class, and came and examined it. Colonel Cruden is a man who has done a very great deal for physical training in the schools of Scotland, especially in the North of Scotland. These classes were very well attended, and I am bound to say that in the schools taught by the teachers who attended those classes, I have seen a considerable improvement in the drill. I think that if it were possible, something more should be done in getting at the teachers who have not gone through the Training Colleges. It might be possible for the County Committees to do something in that way. I think it might very fitly fall under the head of technical education, and give them an opportunity of doing something. I am not quite sure whether the Education Department might not do something, because those teachers who go through the training of the Normal School—well, they all get an opportunity of going through a course of physical training, and I think it might not be a bad idea if the untrained teachers were required to submit to some similar course of training, and perhaps even to show, sooner or later, that they held a certificate for it. I think in all my experience the best military drill that I have seen was in the town of Greenock in Renfrewshire. The schools were all taught there by a keen enthusiast, a retired army man, but apart from that, the schools were pitted against each other once a year. There was a cup—I cannot say who presented the cup—for competition among different schools. Selected teams from all schools met, and some local army officer of standing was always available to decide, and I know that that had a very healthy effect on the drill in the schools. With regard to the school premises, which are not always suitable, even in the towns, the class rooms, especially the older ones, are not generally of a type that lend themselves very readily to drill purposes.

Cadet corps.

Teachers.

Time given.

Instruction: lack of properly qualified teachers: large proportion untrained

Teachers: classes by Cruden: suggestions.

School premises.

1077. Perhaps you would say why?—Mainly from want of floor space, being taken up mostly with desks.

1078. Immovable?—Immovable desks. I do not think it would very expensive to fit up some central hall or gymnasium for a town of some considerable size, where the schools could go by rotation to take the drill. And I do not know whether it would be possible, but if it were possible I think it would be very desirable that the older boys should be taken occasionally to the local drill hall—the Volunteer drill hall. I think it would be a very good thing if they were brought into touch with the Volunteer system before they leave school. They might in this way be directed in a practical way at an early stage towards joining the Volunteer movement later on. I do not know how far the country is prepared for it, but I think some form of compulsion should be brought to bear upon every lad when he leaves school, to undergo a course of training, either in a continuation school, or elsewhere—I think that was practically the substance of what I had thought out.

Compulsion desirable.

1079. *By Sir Thomas Coats.*—Regarding the time devoted to this physical training, you say that practically there is only about—according to the time-table—half an hour per week given?—Yes.

Time given a maximum proposed.

1080. Would you consider that half an hour to three quarters of an hour daily could be devoted to physical training without interfering with the progress of the pupils in their other classes?—I think that is making it too long; that is taking up too much of the day.

1081. How much could be devoted to drill without interfering?—Well, I think that it would not interfere at all with the regular course of the day's work if at these interval periods, that is to say, they all have either ten minutes or quarter of an hour's interval in the forenoon, and say ten minutes in the afternoon. Now, if they were all dismissed and assembled in a regular, orderly way, and put through five minutes before and five minutes after coming in—before they go to their class places—if they were put through some regular form of drill, then that would go a long way to keep it up. That could be done every day perfectly well.

1082. D you mean when they come in the morning, and when they assemble in the afternoon?—Not quite these intervals, but there is an interval in the middle of the forenoon of a quarter of an hour, when they all

get out in the playground, and the same in the afternoon, but rather a shorter interval. Now, I think a part of that quarter of an hour could be devoted very readily, either in the class room before they go out, or in the playground after they do go out. I should not interfere with the children's play. I should not deprive them of the whole of their play, but I think something could be done in that way.

1083. You have mentioned play just now. Do you believe in the systematic teaching of games?—Well, I think I would rather let the children just find out what suits them in that way.

1084. You would not instruct them, say, in football or cricket, or anything of that sort, with a professional man qualified to teach them?—Well, there are very few of the State-aided schools where the boys are of an age to make it worth while bringing in a special coach, say for cricket or games of that sort. No doubt there are a few, and I think in these they do that. I think they have cricket clubs. I may mention, for example, Kilmarnock Academy, which has a fairly good cricket club of its own.

1085. I was referring more particularly to the Board Schools; children up to fourteen?—Of course it is a Board School too, but the fourteen year old children——

1086. Yes?—They do play, and their time is fully occupied in playing. I have not considered the question very fully, but I do not see any great advantage in organising a system of instruction in games.

1087. You talk of, in towns, bringing the children to a central hall for drill purposes. Would not that take up a good deal of time? What time would you devote to that? Take them on Saturdays, or what?—No; I would have each school have their own day, and each class their own hour, and let them be marched by their own teachers to the central drill hall. That, of itself, would be a good training for them; and in a case like that, perhaps the instruction had best be given by an expert.

1088. That would take up, I suppose, an hour to an hour and a half for each school?—Well, that would be once a week.

1089. *By Sir Henry Craik.*—You speak of the possibility and expediency of having a central hall. Do you know any case where the School Boards have attempted a central hall?—No, not one.

1090. Of course, in your present district, you have no crowded areas?—There are no crowded areas at all, and the question of playground does not trouble much. I mentioned Greenock before. I remember once seeing a play court on the roof of a building. I believe that is not uncommon—at least, I have heard—in London; but I never saw any case of it in Scotland, except one case in Greenock, where the children were taken away up to the zinc roof, which was well railed in, of course.

1091. In towns, of course, that central playground might enable them to go together in much greater numbers to drill?—Yes, I think it would be a good thing to have them brought together occasionally in masses.

1092. It would give a greater feeling of mutual interest between the different schools?—Yes, and a healthy rivalry.

1093. Then you spoke of the appointment of janitors as having come into this latterly. Is that common in your district, in the country schools?—In the country schools they very rarely have janitors. Well, in cases where the Board has both town schools and country schools, the town man generally goes out to the country schools and does the drill there; but, after all, it is only a limited number of rural schools that have the advantage of an expert.

1094. And, in the rural schools, they have to trust to the teacher?—To their own teacher mainly.

1095. You have never known any case of itinerary drill instructors, who are moved from one school to another?—No. It may so happen that the same drill instructor is employed by two Boards, but there is nothing more than that, and very little of that does.

1096. But that might meet your difficulty?—That might meet the difficulty in the rural schools.

1097. If he had the help of the teacher to maintain discipline and respect?—Well, the expert goes in at a particular hour, but I hold that drill should be more constant and regular throughout the week than that, and that the only man who can give it is the teacher, who ought therefore to be specially qualified, working, if you like, under the expert.

1098. The occasional advice of the expert?—Under the advice of the expert—yes.

Teachers: Cruden's classes.

1099. Now, as a means of training the teachers, you spoke of Colonel Cruden's classes. He sends those who have been instructors at his institution to various parts of the country?—He does.

1100. He does not frequently take part in the instruction himself?—No; he keeps in touch with the classes. Of course, this was in Ayrshire, and Ayrshire is a long way from Aberdeen, but he was two or three times down in Ayrshire during the course of his classes.

1101. Who grants the certificates? Who guarantees the qualifications of those who carry on classes under Colonel Cruden's system?—Well, I think he issues the certificates himself.

1102. And at a certain fee?—Yes.

1103. He charges a fee?—He charges a fee.

1104. And if he examines a class of teachers, he issues the certificates and charges a fee for those certificates?—Yes.

1105. Well, do you think that is a very satisfactory system?—Generally speaking, I should regard it as not entirely satisfactory. In this particular case, I know that a great deal of valuable work has been done. I have seen him examine several.

1106. But there is no other subject, for which a public grant is made, in which the qualifications of a teacher are tested by a private individual who charges a fee?—No, but better have it tested in that way than not at all. If the Education Department is not doing it, it is left pretty much to private individuals.

Code, Art. 91 (d).

1107. You say the Department ought to do something, but has your attention been directed to Article 91 (d) of the Code?—But that is for teachers' classes.

1108. Yes?—Yes.

1109. Well, you are aware that the Department pays three-fourths of the expenses of such classes?—Yes.

1110. And that we do send an expert to examine the teachers; and upon his report, do issue the certificates. Have you not had any experience of that?—We have had a 91 (d) class in Ayrshire.

1111. For drill?—No, not for drill; and I am afraid, just at the present moment, I was not aware that drill was one of them.

1112. Oh, yes?—So that whatever I have said that appeared to reflect on the Education Department, I must withdraw, because I am afraid that was not present to my mind when I spoke of 91 (d).

1113. In various parts of Scotland we have classes of that sort, which are carried on very often by the County Council or by any local authority?—Yes.

1114. And they get three-fourths of the expenses?—Yes.

1115. And, of course, our certificate is issued without a fee to the persons who qualify?—But is not the Department rather objecting to pay the expense of travelling—to count that as part of the expenses?

1116. You are speaking of classes for teachers generally, and not for this subject only?—For the teachers generally.

1117. I think we paid fares for a time, but I think we saw that the charges were rather large, and we fixed a limit to the amount that would be paid for travelling expenses?—Because in a county like Ayrshire you could only have one or two centres, and many of the teachers have long distances to go, and I think it is rather hard to insist on their going through a course of training, and making them pay it out of their own pockets.

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1118. They would have nothing to pay except travelling expenses?—But the travelling expense is the bulk of their expenses.

1119. We pay up to a certain limit for travelling expenses—a certain amount each night?—That handicaps the teachers in the more remote districts, and they are generally the worst paid and the poorer class.

Continuation classes: compulsion beneficial to individuals and country.

1120. That is a detail as to certain regulations which may be wrong; they might be modified, but we do make such provision for existing teachers obtaining physical training. That is all I wanted to bring out. You said that, in your opinion, if the public would agree to it, some form of compulsion would be to the advantage of the pupils?—Of the individual, and of the country too.

1121. Do you know that they do have such opportunities in the continuation schools in your district?—They are not much taken advantage of. There are very very few schools—I am not prepared to say even if there is one at present in Ayrshire.

1122. That would only be accomplished by some local authority—by some one taking an interest in it, and forming such classes?—That might do much.

1123. None of the Boys' Brigade companies have formed themselves into such classes, and have sought grants?—I think not in Ayrshire; I am not quite positive about it, but I think not in Ayrshire.

1124. Nor a cadet corps?—Nor a cadet corps.

1125. You are aware we would readily recognise a cadet corps as a continuation class, if it should propose itself?—Well, in a cadet corps, the work is all done during the day in connection with the regular day work.

1126. The continuation classes may be carried on during the day. They are not confined now to the evening?—I know, but in regular day-schools. The two I have in my mind were the Ardrossan Academy and the Kilmarnock Academy.

1127. You are not aware of any cadet corps except those that are connected with schools?—No.

Military drill: no objections thereto by parents. Effects.

1128. Have you found, keeping in view the possibility of compulsion at present, any objection on the part of parents to their children taking part in this military drill?—None whatever.

1129. You never found the existence of it?—Never, unless in the case of a delicate child.

1130. There, of course, he would be exempt?—Yes.

1131. There would be no difficulty in his being exempted, but there is no feeling that it is an interference with the rights of the parents or of the child?—No; I once heard of a Board that had some conscientious scruples about the matter, because it fostered the military spirit too much; but I do not think that that feeling is very general either.

1132. Have you noticed yourself what is the effect of excellence in such drill upon the general tone of a school?—Generally speaking, where there is excellent drill, I should not say it betokens a superior school, but the superior school is generally there also. They go together very much.

1133. You speak both of moral tone and intellectual excellence?—Yes; but I should say, on the other hand, that many superior schools, from the intellectual point of view, do not go in much for drill. That may be a mere accident, that the headmaster is not very much of an enthusiast or an expert in the matter of drill; but I should say that where there is thoroughly good drill, there is also a thoroughly good all-round school.

Physique. Feeding.

1134. In the poorer schools of your district, have you observed any deficiency in the physique or in the feeding of the children?—In the country schools not much, and there are not very many, even in the towns of Ayrshire, in the very poor schools. One or two might give evidence of poor home circumstances, You can see that from the children, but that is rather exceptional in Ayrshire. But about the feeding: occasionally, especially in the rural districts—I may say it is altogether confined to rural districts—they have a system of providing a meal for them in the middle of the day. I think that is a very good thing for the children that come from a distance, provided they pay for it.

1135. Do you think there would be any difficulty in insisting upon this physical training being carried further, from its being an overstrain upon the strength of the children? Do you think that that would occur frequently in your district?—Scarcely at all. The ill-fed child is an exception in Ayrshire.

1136. *By the Hon. Thomas Cochrane.*—I would only ask you about the general effect upon the health of the children. You have spoken to Sir Henry Craik to the effect that where there is good drill, there is generally a good standard of education in the schoolroom?—That is so.

Drill: favour amou recom

1137. And have you noticed the health of the children also; has it any effect on the health of the children individually?—Well, I am not prepared quite to say that I have noticed much in that way. At present the drill that they get, as I have said already, I do not think it is sufficient in amount to show very appreciably in the health of the children. I think there can be no possible doubt that it is good for the health.

1138. That is your general impression. You have seen the gradual rise of physical exercise, of drill, in Board Schools?—Yes.

1139. From 1873 onwards?—It has been compulsory in recent years. They insist upon it in every school now, I think, practically.

1140. I think it was originally since 1873—and afterwards in 1895?—Well, it was not compulsory so far back as 1873. I really forget now; it is comparatively recently that compulsion was introduced.

1141. And what opinion have you formed compared with the days before compulsion was in force?—Well, my opinion is formed altogether in favour of drill, and more of it.

1142. And what particular kind of drill do you think is most suitable for children?—I should think drilling, say, with dumb-bells, for boys combined with military drill; but if the teacher has any particular form that he prefers himself, I should think he would get the best work by following his own bent provided his system is based on some rational principles.

1143. Do you find the children get wearied of constant, rather monotonous drill—squad drill, and so on?—They never have so long of it to get wearied.

1144. You think some kind of physical exercise would have as good effect, and is rather more enlivening for them. By squad drill, I mean the ordinary marching and forming fours and marching about?—Well, I should not confine it to that exactly.

1145. Both?—I think a mixture of both. In fact, I should say that the physical exercise would be, in many ways, infinitely preferable to forming fours and that kind of drill.

1146. You have seen the Code for schools in England—the Model Course?—I do not know the English Code.

1147. The first course is practically squad drilling, marching, and forming fours, and the second part is a variation, very much of a similar kind, to physical drill given to soldiers, rising on the toes and stooping?—Yes.

1148. A less formal kind of drill?—Yes.

1149. Do you think that would be generally better for the children?—Well, I would rather not express an opinion. I am not by any means myself an expert in drill, but as to the general benefit of it, I have no doubt whatsoever.

1150. You say that you think delicate children should be exempt from drill?—Yes.

1151. Who determines at present whether the child is delicate or not?—Oh, well, the parent, in the first place, would probably make an application to the teacher, and if he is satisfied that it is genuine, then he does not go further. The child is simply exempt.

1152. But there is no medical inspection at present in Scotland?—No. If there was any difference of opinion about it, probably then a medical opinion would have to be called in, but I should fancy that

generally the appearance of the child is suggestive of inability.

1153. The intelligent teacher can at present?—Pretty well. Yes, I think so. It might very well be left to the headmaster to determine in a case like that, I think.

1154. But there is no medical inspection of school children in Scotland?—There is no medical inspection of school children.

1155. Do you think, from your experience, that that would be advisable, including the medical inspection of school buildings as to their sanitary condition?—Well, I think it would have more effect in inspecting the buildings than in inspecting the children.

1156. Regarding the food of the children, do you find that there is generally in Scotland a feeling of responsibility on the part of the parents to feed their children?—They generally desire to feed their children well in Scotland.

1157. Good, wholesome food?—In some towns I am not prepared to say that there is quite the same independent spirit in Scotland that we used to boast of in olden days; but, generally speaking, there is still on the part of the parent a desire to do the best he can in every way for the child.

1158. There is no indication of a tendency to throw the burden on the State, to get free meals for their children?—Not generally.

1159. They would prefer to pay their penny for the meal, if meals were provided by the School Board or some other authority?—Many of them would prefer to do it; and those that did not prefer, I think, should be made to do it.

1160. *By Professor Ogston.*—You have had very varied experience of towns and countries: do you think that since physical drill became an important element in the schools, the intelligence of the children has improved?—Schools are improving; we are improving our methods of teaching; but I have little doubt that the attention that is being given to drill has some appreciable effect in accounting for the general improvement.

1161. Do you think it would be possible in any way to verify that by figures; say, for instance, the proportion of prizes and rejections in your standards?—There is no such thing as passing and rejecting now, I am glad to think. We used to examine them individually and pass or fail individually, but we do not do that now.

1162. And there is no way in which the test might be applicable?—I do not think there is any figure test. I am afraid it must be left to one's general impression from year to year of what the school is doing, at least I cannot think of any figure test that could be available.

1163. *By Sir Henry Craik.*—The number that obtain the merit certificate—would not that be a test of the accomplishment of the school at the time when the curriculum finishes?—The merit certificate is a matter of recent origin, and, apart altogether from the question of drill, it was bound to go on advancing by leaps and bounds, and I am not prepared to say how far the question of drill has entered into that question.

1164. *By Professor Ogston.*—I suppose, in the case of younger children, say up to twelve, the effect of drill in improving them both physically and mentally would be less than in the case of children over that, say fourteen?—Yes, I think I should agree with that.

1165. But in regard to those, you do not think there are any existing data that could be available to us in any way to verify or contradict the idea that physical education was beneficial to intelligence and to accomplishment?—I cannot think of any way of getting at data such as you suggest.

1166. I observed you spoke of some of the headmasters of the schools being chary of introducing physical education; do you think there is any increasing opinion that physical education has been overdone?—I do not think that they can be possibly of such an opinion in Scotland, where we are really only on the threshold of the question of physical training. It certainly has not been overdone, and I have never heard any suggestion that there was any prospect of its being overdone.

1167. In Scotland?—I think the Scotch schools have been very very far behind in the matter of physical training.

1168. And have you any opinion that you could supply the Commission with, regarding the question of overdoing physical training education elsewhere than in Scotland?—I am not prepared to speak of any other set of schools than Scotch schools.

1169. Or in higher educational institutions, such as the public schools—universities?—I cannot speak of them.

1170. In the case of the introduction of physical training into schools, would the records of sickness, or absences from illness, show anything that would prove the advantage or disadvantage of physical training?—Well, I should question it very much.

1171. Perhaps I should first have asked whether there are any records of sickness kept in any form that might be made available?—I do not think that there is any permanent record of absence through sickness. The child is absent, a note is brought from the parent as to the reason of the absence, but I do not think that there is any permanent record kept of such cases.

1172. So that all that you can say is, that your general impression is from observation—that you cannot actually produce any figures of the physique and intelligence having improved since the introduction of physical training?—No; I think it is too early to begin to generalise in that direction myself.

1173. *By Mr Fergusson.*—There is no school record why a child is absent. At present, as far as the school returns are concerned, I do not think anything is known of them?—I do not think so.

1174. The only way perhaps you get at something such as is wanted is from the returns of the clerk of the School Board, because when he returns to the School Board for their information the number of children absent, he gives the reason for absence?—Quite so.

1175. So many are sick, and so many are one thing or another?—But, generally speaking, it is only in cases of somewhat prolonged absence.

1176. And unless these records are preserved there are not any tables which would supply what Professor Ogston wishes?—No.

Some physical training given in most schools of Ayrshire.

1177. Now as to physical training, you say that in Ayrshire, in most of the schools there is some sort of training?—I think practically in every one there is some form of training.

1178. You know the words used in Article 19 of the Code is, 'Is adequate provision made for instruction in 'physical exercise?' and we are told that in the great majority of cases inspectors answer that in the affirmative, does that mean adequate, considering the opportunities they have?—We are bound to answer many things in the affirmative.

1179. We need not take that as meaning that you are satisfied?—It does not mean very much; it means that there is provision of some kind.

1180. I was very glad to hear you make some complimentary remark about Alloway School? I understand you have been asked, or are going to be asked, to recommend the names of certain headmasters of certain schools where the work is done well, who might appear before this Commission. It would save my asking you a lot of questions if you would tell me, if you are going to name the headmaster of Alloway School as one of the schools in your district?—It occurred to me, as soon as I knew that such was going to be asked of me, but I thought as you were present it would not be necessary, but he would certainly be one of the men that I should have before the Commission.

1182. You consider Alloway is a good example?—Yes; I should consider it a very good example indeed.

1183. There, as you know, more than half an hour a week is devoted to physical training and drill?—That is so in Alloway.

1184. Has that had any bad effect on the general

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education of the school? Did you find that there were deficiencies in other departments?—Not at all. It is a strong school at every point.

1185. Strong at every point?—Yes.

1186. Well that seems to show that you can devote a good deal more than half an hour a week without injuring the general education?—Yes; but then it is very possibly not very much more than half an hour. Alloway, after all, is a fairly large school; and though it may be that they are getting much more than half an hour in the week, is it not possible that when you come to individual pupils they may not have very much more?

1187. Of course the time-table will show that, and we can ask the headmaster?—But the time-table is somewhat misleading.

School premises: fixed furniture: central hall.

1188. As to the difficulty of finding space in schools for this training, you referred to the fixed furniture and graded floors and the want of a hall, and so on, but does it come within your knowledge that this system of having fixed furniture and graded floors is becoming universal in your schools?—It is not so bad in the old schools, but in the new schools that is always done. I think it is, generally speaking.

1189. Perhaps you do not know whether or not the Department insists on this being done?—Oh, I think the Department gives them an entirely free hand in the matter. There is no condition laid down about desks.

1190. When you are building a new school?—No; provided the furniture is suitable—that is all.

1191. Then the same as to central halls—do they encourage central halls?—They give the Boards there, too, an entirely free hand.

1192. I am afraid not, Mr Lobban. I fought very hard for our central hall, and it was only because I stuck to my point for months and months that I carried it?—I beg your pardon. I was rather thinking from the other point of view, whether they put any difficulty in the way; whether they insist upon free halls.

1194. Is the town of Ayr in your present district?—Oh, yes; the whole county is.

1195. Is there much physical training given in the Ayr Burgh schools?—Well, not very much.

1196. And still they have every advantage. It is a military centre, with instructors at their hand, and everything else?—Yes. I think it would be a very important advantage if the local military instructors could somehow be brought into touch with the education system of the country.

Military instructors should be brought into touch with education system.

1197. Then you spoke about prizes for competition among the schools, but do you not think that that might lead to the children, or a squad of them, being trained for show—rather to the neglect of the others?—No doubt there is a little risk in that way. I quite admit that.

1198. While you think the healthy spirit of competition would be good?—Yes.

1199. But it would have to be carefully done?—Yes, quite so.

Games supervised. Playground inadequate.

1200. Then on the question of games. I suppose one of the troubles about games is that there is no place even in the country for the children to play games?—No, except the playground itself.

1201. A good many playgrounds, I suppose, are not suitable?—Well, they could not play cricket, and they cannot even play football.

1202. The village green unfortunately does not exist, but do you not think that it is desirable, even if it is only elementary football in the school playground, to start children well, and tell them how to play the game. I do not mean to give it to them as a lesson, as a piece of their school work, and stand over them and interfere with them, but put them in the right way of playing the game?—Well, if it means that the supervision of the teacher is to extend to the playground I entirely agree, and I think that as long as they are in the playground or on the premises at all, they are quite as much, or ought to be quite as much, under the supervision of the teacher as they are in the classroom.

1203. Then so far you would be in favour of games being taught?—Supervise them. Leave the children free to select their games, but let them play in the playground under the supervision of the teachers.

1204. I was more supposing they are out of the playground. Supposing they had a field handy to the school where they could play, do you not think that it would be well to teach them how the games ought to be played?—I do not think it would become general very readily that there should be a play field for them—for the Board Schools.

1205. That may be; but if there were one?—But if there were one.

1206. You would not be against giving games more consideration?—No, certainly not; but I see very little prospect of ever having a playing field in connection with the ordinary Board School.

1207. You spoke of some of your School Boards objecting to the military spirit. Do you find that it is the general use of the words of 'military drill' to cover all sorts of physical exercises that has among a good many people exercised an adverse influence. They begin to say you are just trying to make soldiers of the children, whereas all the time you are only trying to teach them to breathe and walk properly?—I do not think I ever heard any Board or member of a School Board express to myself any objection or opposition to physical training. I think it was more a matter of hearsay; in fact, I think it takes me away back to the days when I was in Paisley. I think I heard some members of the Board there express an opinion adverse to military training—I mean that it fostered the military spirit; but I do not think it is general now, and if it had been in the early days it has entirely disappeared. I think we may take that for granted almost.

1208. Then, as far as the feeding is concerned, of course I suppose we may take it that if you increase the physical exercise you may increase the appetite of the children?—That is so.

1209. Taking it as you said, that the majority of the children in your district are fairly well fed, I understood you to say you would favour any system which enabled the children readily to get a good meal in the middle of the day?—Most decidedly.

1210. And you think that the parents—of course, all the parents can do is to give the child 'a piece' to take to school, or very often a penny which you know goes in sweets—you think that the parents would favour a way of making it easier for the children to get a good meal in the middle of the day; and they would not grudge to pay for it?—I think the parents would be too pleased if any reasonable arrangement of the sort could be made.

1211. You think it would be a good thing for the children as well?—Well, I have no doubt about that whatever.

1212. *By Mr Shaw Stewart.*—Just one question on the point of a field for the children to play in. It was suggested by a former witness that, in populous places, possibly schools might group together and get a field among them on different days. If that were done, would the teachers welcome that, do you think—would they be willing to go out and help the boys in their games?—I do not think that there would be any objection on the part of the teachers; but, in any case, if it were for the benefit of the children, I do not think that the opinions of the teachers would bulk very largely in the matter.

1213. No, except so far that a great deal falls on the teacher during the week. Of course, he might do it under compulsion, or he might do it because he enjoyed it and liked it?—I think that teachers would be quite willing to favour such a scheme as that, but, of course, it would have to be by Boards you know; it could not be individual schools. Such a thing ought to be done by the Board of the place.

1214. Quite. I was speaking of groups of Board schools?—Yes.

1215. *By the Chairman.*—You stated that the time-table was very often rather misleading. Am I correct in saying that every time-table is revised and sanctioned by you before it is applicable?—That is so.

1216. Would you explain, then, what you meant by saying misleading?—Well, drill may appear two or three times in the time-table, but this drill may be confined to a section of the school, so that it would hardly do to reason that, because drill appears perhaps three half hours in the time-table, every child in the school is getting one and a half hour's drill; it may be only three sections of the school, each getting half an hour, so that if you just merely look at the time-table—that is what I meant by saying it might be misleading if you do not have that in your mind—that it might apply only to sections.

1217. But if it might be misleading, are there any means by which that could be rectified. Do you consider it satisfactory that it possibly should be misleading, or would you prefer to leave it more or less general in terms?—Oh, I think it might be left more or less general in terms.

1218. You would hardly perhaps devote sufficient time to every individual time-table to go into the details?—I daresay we ought to do it.

1219. But, I mean, you have hardly time?—It is not easy.

1220. At the same time you do actually inspect every time-table before it is passed?—Every time-table comes under our supervision.

1221. You said also that you were not an expert in any way. I suppose you have to conduct an examination in drill the same as you do in sewing?—Or see it is conducted.

1222. Well, but practically it is you, because you are the person who reports?—I report upon what I see.

1223. Then practically you examine?—But I do not put them through their lessons, as it were. I do not myself give the word of command.

1224. But I suppose, from the frequency of these inspections that you had, that you became insensibly a sort of expert. You know that the thing is done well or badly?—Well, at any rate we institute comparisons, and know when the thing is well done.

1225. What I rather want to get at is, do you think you know sufficiently well, or do you think that perhaps inspectors coming on in the future ought to be more instructed in the matter?—Well, I should be very glad if I knew more of it, realising the importance of it as I do.

1226. For that reason you would rather that in future the inspectors should have a certain knowledge of it?—Yes.

1227. I mean at some period. Of course you cannot do these things all at once—in the far future say?—Or else have a man specially told off to look after the drill of the whole country.

1228. That would cost money, though, would it not?—Well, one man. He does not require to go to every school; he might select.

1229. When you have those inspections, if you do not like examinations—inspections of drill—do these not occur at your surprise visits?—Yes, we may ask them to be drilled at our surprise visits, just to satisfy ourselves that the instruction is regular and systematic throughout the year.

1230. Then, with regard to the physical exercises, you thought that at least very likely dumb-bells would be advisable. Who would you propose to be the deciding authority as to the weight of dumb-bells for different sized children and children of different ages?—Well, the dumb-bells that are in general use in the schools are merely wooden affairs, you know. It gives them something to hold in their hands, but the weight does not come in as a question at all. I do not think that the schoolmaster should be the man to settle the weight.

1231. You agree with me that that would be rather a question of health and scientific knowledge?—Health and scientific knowledge decidedly.

1232. And a man of skill?—Decidedly.

1233. There is another subject that I do not think you have touched upon at all in particular, and that is the physical training of girls. Have you any views about that—I must rather take you back, I am afraid, because you have only expressed it generally; but I should like to ask you particularly, on the subject of girls, as to whether you think such training is not only necessary, but has, in your opinion, been of value?—What I said was meant to apply to both boys and girls, except in the case of the older boys, who might be taken away to the drill hall, or anything like that. I do not propose that for girls. Girls: physical training same as for boys.

1234. You do not propose anything in the way of special training for girls; you think boys and girls, up to the age of fourteen, ought to be able to do the same, as far as you know?—As far as I am able to judge in the matter.

1235. In the inspections that you now conduct, pretty much the same is the case?—Pretty much the same. There is a form of drill for girls, I see, giving hoop drill.

1236. Yes, and what about skipping: do you ever see that?—Not in schools.

1237. Not in schools?—Not in schools. I have never seen skipping in schools, and I have not seen dancing in any of my schools, though I believe it is done in some places.

1238. You revise the time-table for drill, but you do not revise the squad drill, do you? Would it be within your power to suggest certain changes in the drill performed?—Oh, yes.

1239. Has it ever occurred to you to suggest dancing?—Well, I have had occasion to point out that there seemed to be no point, no aim in drill in a certain school; it was altogether a feckless, fusionless affair; and what I have in my mind just now is just a sort of mere arm exercise, where it does not go beyond the arms, where the body is not thrown into it at all; and these are just the cases where the teacher has no concern, no compulsion or aim to work it up. Teachers: lack of proper training.

1240. Because they have not been trained?—Because they have not been trained.

1241. Not for want of will, but for want of experience?—From want of training, and want of knowing what to do; and that class of teachers bulks pretty largely in my district, and I hope that we shall be able to do something to remove that at any rate.

1242. It is very interesting to know exactly the state of affairs at the present time. Then as regards the good feeding—general good feeding in towns as well as in the country—I suppose you are aware of the unfortunate number of convictions through the agency of the Society for the Prevention of Cruelty to Children that occurred not only in Ayrshire, but also all over Scotland?—All over the country. Yes. Feeding of children in towns generally worse than in country.

1243. And where in many cases the child is found to be poorly nourished, and yet such and such a child to be a school child?—Yes.

1244. You will admit that there are a great many?—Oh, there are cases; and it is a very serious social problem that must be solved in some way.

1245. You had that on your mind when you said to the Commission that the children were well fed in towns. You rather suggested that the children in towns were better fed than in the country?—No, I should think not. I should think it would be rather the other way—that there is a stratum in the towns, where the children do come poorly fed, and a very difficult class they are to deal with too. That is rather a wide subject. I do not think that the children who come from those homes are able for the effort, either physically or mentally, that the school demands from them. It is a very serious problem. I admit it fully

1246. *By Professor Ogston.*—Would you kindly allow me to put one single question. Suppose that an accident happened during the games or physical drill of any kind in a school in the neighbourhood, would it be reported to you as inspector, and by you to the Board, or would you obtain knowledge of it in any way?—Not in any way, except purely accidentally.

1247. By chance that means?—Yes; quite so.

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1248. *By Mr Fergusson.*—Might I ask a question about the time-table, because, as you described it to the Chairman, it did not seem to be a very useful document. Does not the time-table show what the different classes are doing?—Well, some of them do, and they all should.

1249. But a properly constructed time-table?—A properly constructed time-table would show without any misleading. Yes, you are quite right.

1250. A time-table should show what each class is doing at each particular time?—In many cases they give in a very extended form what each class is doing. They do not all do that, and I do not know that we are quite entitled to insist upon it. I daresay we should.

The witness withdrew.

Mr Alan Tuke, M.B., C.M., examined.

Mr Alan Tuke, M.B. C.M.

1251. *By the Chairman.*—Are you a medical man in Dunfermline?—I am.

1252. In practice?—In practice.

1253. Have you got a copy of what you sent in?—Yes.

Physical training in Dunfermline: no system.

1254. I may ask you to go through it, please, and then we ask you questions that occur upon it?—Dunfermline has 30,000 inhabitants, and is a good type of a Scotch manufacturing town. In it physical training, as carried on in the Board Schools, is of the most haphazard description, without system, and therefore is certainly not beneficial, and at present is so much wasted time.

Remedies.

Remedies.—Physical training, to be of any use, must be carried on thoroughly and systematically. The following is the scheme I would propose to carry out in all Board Schools:—

'(a) That all teachers and pupil-teachers be instructed 'in the theory and practice of physical training by a 'competent instructor, and that they all have a 'certificate of proficiency to teach this branch of 'education.'

Instructors.

Note.—*Instructors.*—The difficulty in this case, to my mind, is to get suitable men. The army is at present the main source from which this class is derived. This, I think, is open to objection, because they are men accustomed to instruct only the strong and healthy; whereas in the case of schools it is the very young, a distinct proportion of which is of feeble health. It is most important that all instructors hold *Diplomas* from some of the accredited bodies which grant diplomas for physical training, such as 'The National Society of Physical Education,' 'The 'Teachers' Gymnastic Association,' or the Government Aldershot Certificate for army instructors.

Uniform system for particular district: graded according to physical strength.

'(b) That at the beginning of each session a scheme 'of physical training be drawn up for all the different 'classes, from the infant department upwards; the 'same scheme to apply to all schools in the town and 'district under the jurisdiction of the Board governing 'that district.'

Note.—*The Scheme of Training.*—The children to be graded according to their physical strength, not by their mental attainments.

Class I. (Infants).—Marching, and marching on the tip-toes, and free-standing movements. Free standing movements are what are known as the free exercises, that is, practically exercises which move every single muscle of the body, beginning with the muscles of the head, the neck, forwards, backwards, sideways, the muscles of the feet, arms, legs, movements whereby every single muscle in the body can be moved systematically, which are put down in the various books.

Class II.—Marching, and marching on tip-toes, and advanced free-standing movements.

Class III.—Marching, and marching on tip-toes, free exercises, and running drill.

Class IV.—Marching, and marching on tip-toes, knees raising, advanced free exercises, and running.

Class V.—Marching, and marching on tip-toes, knees raising, hopping exercises on the march, free exercises, Indian clubs or wand drill, and running drill.

Class VI.—Marching, and marching on the tip-toes, knees raising, hopping exercises on the march, free exercises, Indian club, wand, or dumb-bell drill.

All these exercises can be done quite well in a moderate-sized classroom; in the summer time they can be done in the open air. There is no doubt all new schools should be built with accommodation suitable for physical training. The *time* to be taken daily should be: infant classes, twenty minutes, and higher classes up to forty minutes. In the winter the most suitable time is the morning; the training never to be done when the children are tired. By tired, I mean mentally as well as physically.

'(c) That a qualified instructor in physical training 'inspect each school fortnightly or monthly—the classes 'to be exercised before him in order that he may see 'the advancement made, and that the approved-of 'exercises are being properly carried out, and also 'that the teachers themselves are keeping thoroughly 'conversant with the subject.

'(d) That H.M. Inspector of Schools have along 'with him at the inspection an expert in physical train-'ing, to report specially on that branch.' I mean, to report to the Board specially.

Moral and physical condition of the youth of the country between the age of fourteen and eighteen years.—

Personally, I can speak as to the great benefit the Carnegie Gymnastic Club, Dunfermline, has done in this matter to growing lads. Keep the young animal physically fit, and this greatly tends to prevent it going morally wrong. There is no doubt that between the ages of fourteen and eighteen the larger part of the community are, physically, distinctly defective, and to a medical man, who has watched closely physical training carried on in a gymnasium, the effect of a course is wonderful.

1255. *By Professor Ogston.*—Did I understand you to say that between fourteen and eighteen the majority were distinctly physically defective?—No, I did not say that, sir. There is no doubt that that is not correct. There is no doubt that between the ages of fourteen and eighteen a large part of the community are physically distinctly defective.

1256. *By the Chairman.*—Between fourteen and eighteen a large part of the community are physically distinctly defective, and to a medical man who has watched closely physical training carried on in the gymnasium, the effective of a course is obvious?—

Continuation Classes.—The Continuation Classes, as they exist here, are an attempt in the right direction. The lads come for an hour and a half once a week, but are debarred from the physical training class unless they take two or three other subjects as well. An hour and a half once a week is not of much use. Three lessons of three-quarters of an hour each would be a great benefit; the present system further demonstrating the want of method at present existent. This class should, undoubtedly, be carried on in a gymnasium, because the lads are of an age to use apparatus and to undergo a more vigorous course. In a town in which there is a gymnasium, why should not every lad who has left school be allowed the privilege of a course of instruction for two or three years free, so that the work done in school may be more permanent, and thus add to the national strength?

Post Office Service.—Every lad in the Post Office should undergo every year, until eighteen years of age, a course of physical training. By so doing we would hear less of flat-feet and general ill-health in that service.

1257. You mean that that would be a sort of Continuation Class?—A sort of Continuation Class.

1258. You must say that, I think, in order to bring it within our proper view?—Yes.

1259. You see what I mean?—Yes.

1260. We have nothing to do with the Post Office here actually; put it as a Continuation Class?—As a Continuation Class.

In a factory town such as this, the young men and girls employed in the factory suffer most markedly from flat-foot. Physical training is the preventative of this complaint and many others.

1261. That is Dunfermline?—That is a sample of a Scotch manufacturing town. In this town, 1300 pupils have passed through the gymnasium in six years. The gymnasium is kept up almost entirely by fees from the pupils and private subscriptions. Teachers and pupil-teachers have been trained in the theory and practice of physical training by Dr Tuke and Mr Hughes, the gymnastic instructor. I have been in close contact with the Carnegie Gymnastic Club for the last ten years. During that time I have followed the work most closely, and feel very certain of the good that has been done. We have also had to face the difficulty of carrying on such a club by voluntary subscriptions. All that has been done in the past is only a drop in the bucket, and I look forward with great pleasure to possible legislation in the matter, as of the utmost importance to the future of the youth of this country.

1262. *By the Hon. Thomas Cochrane.*—I should like to ask you for more information as to the physical defects that you find in lads between fourteen and eighteen?—In lads between fourteen and eighteen, one of the main defects one finds is undoubtedly deficient chest development. What is known as pigeon-chest, a protruding front chest bone, is a very common thing indeed. Again you find, markedly about the age of sixteen and seventeen, especially in lads who work in factories, most distinct evidence of commencing flat-foot; arch of foot going. It makes them useless for the public service; in fact, no one would take a postman who had a flat-foot. Then you find what is known as *Halux Eigidus*, stiff great-toe joints. There is no doubt that proper physical training, to a large extent, prevents this very painful disorder, which makes young lads very useless for any public service. Again, you find a great want of muscular tone, flabby muscle, dry skin, dry hair—all showing a general want of healthy condition—but this more especially applies to the young men working in the closely confined factories.

1263. *By the Chairman.*—Do you include coal pits?—No, I do not, because I consider the young collier is distinctly a superior animal, physically, to the other young men in the town, most undoubtedly, and I have a large experience amongst the colliers: I consider him physically very fit.

1264. On what data have you formed this conclusion? What opportunities have you for inspecting these young men?—Well, the opportunity I have is this, that I am in the gymnasium every night from eight till ten at the beginning of every season. When the young lads come in they strip to a pair of pants, that is all, and I thoroughly examine them and go over them. First of all, I examine their hearts and their chests, because, if any lad was there with any marked heart-disease, or any incipient heart disease, one would at once put him—I would not say altogether out of the gymnasium, but modify his work there greatly. I then examine them very carefully for spinal curvature, and examine them very carefully for flat-foot, or the commencing signs of flat-foot,—in fact, strip them to the skin and examine them all over.

1265. Examine them thoroughly?—Examine them thoroughly.

1266. Have you got any records of these examinations?—Yes, I have a few notes, a few records, but they have not been, I regret to say, very carefully kept.

1267. They would be most valuable?—Yes, if I had kept them as accurately as I should have kept them, they would have been most valuable. One summer they were actually kept, the measurements of the boys arms and legs were taken; but then I found that an ambition of one to get a little bit more muscle than another caused them to begin to develop muscle, to use exercises to bring up their biceps alone for the sake of measurements, so that was dropped because I think that is not required. You want to retain in the thing as long as you can their agility and their lightness and their quickness, and their putting on of muscle does not tend to that.

1268. And your general experience, you mean, was that the general development after a course of gymnastics is marked?—Oh, it is more than marked; it is extraordinary. I look back now upon two young men, both of whom I thought would be perfectly useless in the athletic world, so to speak. After a year one of them developed into one of the champion gymnasts. When he came he was knock-kneed and he was pigeon-breasted, but a lad of extraordinary perseverance, of great pluck; and he stuck to it, and at the end of one year I did not know him again hardly—he developed into a big, fine man. That is, to my mind, one of the most outstanding cases. Another one is a young man who happened to be a barber, not an occupation tending to muscle at all. He was very very defective, knock-kneed, and of poor nutrition. He has now developed into a first-class gymnast. But, of course, these two lads happened to have very great pluck and endurance. Even in the most unlikely cases it is wonderful what can be done; and with lads who are already in fairly good condition, it is very easy to bring them into really good condition, presuming, of course, that they are well fed at home to begin with.

Gymnastics most beneficial.

1269. And apart from these special cases to which you have alluded, you think that the general health of both boys and girls is promoted by some form of properly regulated physical exercise?—That is simply undoubted; there is no doubt about it at all, that it has the most beneficial effect upon them. No medical man, I think, who has carefully watched it would speak too strongly upon that point.

Physical training, if properly regulated, promotes general health: most beneficial for physique of nation.

1270. And if carried out in a proper manner it would have a distinct advantage on the physique of the nation?—There is not the slightest doubt about that—have a most marked effect.

1271. You alluded to the desirability of gymnastics free, or at small expense, being provided for all young men between the ages of fourteen and eighteen three times a week?—Yes.

1272. Would you apply that to girls too?—I most decidedly would.

Compulsion, desirable for girls from fourteen to eighteen: probably objected to: with boys less difficulty.

1273. In either or both cases, in cases of either boys or girls, would you make it compulsory?—Well, where one could, there is not the slightest doubt it would be a very great benefit if it were done. One would like them to come in willingly, but the large proportion do not. I undoubtedly think it would tend very very greatly to their improvement, bodily and mentally—three times a week—of course, not going on the whole year, but with a break into sessions.

1274. Girls from fourteen to eighteen?—Girls from fourteen to eighteen—of course, special care being taken to make the exercise suitable to those girls. That is a time in a girl's life, and a lad's life as well, when one has to be very careful. Injudicious treatment or overwork at that age is, of course, extremely bad, but there is no reason why girls between the age of fourteen and eighteen should not undergo the course of physical training suitable to the female—of course, different from that of the male.

1275. *By the Hon. Thomas Cochrane.*—Would there be any general resistance to such compulsory training?—Yes, I think there would; certainly as regards the girls in the factory. They go into the factory at 6 o'clock in the morning and they leave at 6 o'clock in the evening. There would be very great difficulty of course in getting the time, first of all, away from their work to do it, and I think that there would be a resistance undoubtedly, because they would not see it at all in the light that 'this is going to do me good.' At that age I do not think they think very much of that sort of thing.

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1276. They would rather think, perhaps, it was taking away half an hour of their free time?—Yes, that is the way I think it would be looked upon.

1277. In the case of the boys, do you think there would be the same thing?—No, I do not think there would be the same thing. In certain cases it would crop up, but I do not think there would be the same difficulty in the case of the boys, because in the case of the girls there would be a great innovation to begin with, and it would undoubtedly meet with opposition to begin with, but it would in time break down. To begin with, however, I think there would be difficulty. With boys, I think, there would be very much less difficulty.

1278. And if proper facilities were offered you think that a good many would avail themselves of them?—I am sure of it. When you think of the apprenticed lad between the age of, say, fourteen and eighteen, who has got a very small salary—5s., 7s. 6d., 8s., or 10s. a week—if he has to pay for a course of instruction 10s. for a year, and if there are two in the family, the parents look upon it as being too big a bill altogether. That I have found a practical difficulty; it is not an imaginary one at all; it is one I have to deal with generally in the gymnasium—the question of fees. Though the fees are small, still we require fees to keep the thing going.

Applied gymnastics: fixing desirable ages greatly depends on physique of particular cases.

1279. *By Mr Shaw Stewart.*—We have had a little conflicting evidence as to the age at which applied gymnastics should be taken. I will just mention that one witness said applied gymnastics should not be taken before a child is fourteen, another witness advocated very strongly the age of twelve; would you give us your views on that?—I have had a good deal to do with this in the gymnasium, because we have them there beginning at the age of six. You mean by applied gymnastics, putting them on to the bar and simply little apparatus work.

1280. Yes. Perhaps I should add that the witness who advocated waiting till fourteen said the muscle was not properly developed till then; did not begin to be developed till then?—Quite so. I think it is very hard and fast to fix down a line, so much depends on the boy—the stage of development the lad is in. You will very often see a lad of twelve and a lad of fourteen, the lad of twelve being quite as strong and big as the lad of fourteen. I think in that a discretion must be used by the instructor, or by a medical man who takes an interest in the gymnasium. It is so hard to fix down an age as twelve or fourteen; but between the age of twelve and fourteen, depending on the development of the boy, the physique of the lad.

1281. In fact you would be in favour of some expert or medical advice as to that?—Oh, yes. There are many lads of fourteen I would not allow on to the apparatus at all; and while you are mentioning that point, no apparatus should ever be used in a gymnasium until the class has had at least twenty minutes' physical training in the gymnasium. In Dunfermline the rule is that no lad is ever allowed on to the apparatus until there has been preceded a quarter of an hour or twenty minutes' physical training. That either means free exercise, dumb-bells, or bar bells,—the reason for that being that apparatus is inclined to develop one set of muscles, and we wish to have all the muscles exercised before he goes to specialise any of them.

Gymnasium: courses and fees.

1282. Would you give us a little information as to the fees and the general cost of this particular gymnasium?—Well, I have brought the fees. We divide the year into two. In the winter time we go to the baths, which are boarded over, and made into a gymnasium. The fees, we will say, for the Carnegie Gymnastic Club are, for the winter session 7s. 6d., three nights a week instruction for six months. The summer session we allow them, if they have taken the winter one, to come into for a summer session of about three and a half months, for 2s. 6d.

1283. 2s. 6d. for the summer?—If they have taken the winter; if they have not taken the winter they are charged 3s. 6d. Children's classes, for instance, little boys' classes, we charge 4s. If we charge more, and there are two or three in the family, it means we only get one. Girls' classes are charged the same. Shop-girls, Wednesday afternoon class, the only afternoon we can get them, we charge them 3s. Teachers and pupil-teachers, we charge them 6s. For that they get their course of sixteen lectures on the medical aspects of physical training, a short resumé of anatomy and physiology, and applying it, and showing how physical training trains and improves the system generally. The School Board, however, pay for the teachers when they go up for their examination—pay their examination fees—so you may say the fees vary from 3s. 6d. to 7s. 6d.

1284. And do the teachers obtain any form of certificate?—We train them, and then they go up to Dundee. They have always gone to Dundee, where they take the diploma of the Dundee Physical Training Society.

1285. Just one question as to the cost of the gymnasium—I do not mean the cost of the building? What is the fee of the chief instructor?—The instructor is paid £2, 5s. a week. The Town Council allow £1 a week for six months, and 2s. 6d. on every pupil. There is left about £35 a year to be made up by private contribution to carry it on. Every year we are £35 to the bad.

Continuation Classes desirable.

1286. On the subject of Continuation Classes, you advocated free lessons for boys who have left school?—Yes.

1287. Do you think they would really take advantage of them?—Yes; I think they would. There is no doubt about it, that in many cases, especially amongst the poorer lads, the fee is a distinct drawback.

1288. *By Professor Ogston.*—I suppose, Dr Tuke, that you are not solely a specialist in regard to this, but rather in general practice?—I am in general practice.

1289. And you doubtless have to advise your patients, and children in the classes altogether different from those who come to you for physical training?—Oh, yes.

1290. And in that way you are familiar with the questions of their health, and their progress, and study, and so forth, as well as with the question of whether physical training is an advantage?—Quite so; that is so.

1291. You have been some years in practice?—I have been seventeen years in practice.

1292. And how did you come to interest yourself in physical training as a specialist?—That is a little difficult. I was always very keen upon athletics when I was younger myself, and the gymnasium was started after I was in Dunfermline about seven years. It began with a very large number, with a casual instructor. It began, I think, with sixty, and rapidly, I think, fell down to ten. I took it in hand because I was very much interested in the subject, and I worked it from ten up to now over two hundred; but exactly how I came to take an interest in it is a little difficult to say. I drifted into it, and once I got into it I got intensely interested in the subject, and I have worked at it ever since.

1293. How did you get your own training?—Well, in the usual haphazard way that every ordinary schoolboy does nowadays.

Defects in children of fourteen: benefited by physical training.

1294. There was one point in your evidence that you stated that a large number of children are feeble. I forget exactly how you worded it. I suppose it referred to what Mr Cochrane asked you about the defects between fourteen and eighteen; but as I understand, it was under that age that a large proportion of children were feeble?—Yes; in bearing out that statement the *Times* newspaper published a report which was taken up by the *Lancet*, and was freely commented upon by the *Lancet*, and the statement was this:

'That out of 100 boys, varying in age from eleven to 'fourteen, medically examined before entering one of 'our large public schools, that 60 per cent. showed 'some physical defect. This clearly demostrates the

'advisability of gently graduated training from the day 'of the nursery.'

I have hunted up the *Lancet*, and unfortunately I cannot find the leader upon that subject; but there was a leader written upon the subject, taken from the *Times* newspaper.

1295. And from your experience, you cannot tell us what these defects are; whether say, for instance, a very large proportion of them were somewhat defective in the refraction of the eye, myopia, or astigmatism, or something of that kind, that has not a direct bearing on their physical training?—Quite so; that may apply to that. Personally, I have not examined their eyes in connection with the gymnasium, except in cases where there has been very marked short sight.

1296. *By the Chairman.*—The words that you used were 'distinct proportion.' I said a distinct proportion—yes.

1297. Of the very young is of feeble health?—Of feeble health—feeble physical health—that is referring to.

1298. *By Professor Ogston.*—Your own experience in Dunfermline rather points to such static defects as flat-foot, knock-knees, pigeon-breast, spine, and so on?—And rickets.

1299. Things that would be all benefited by physical training?—Things that would be all benefited by physical training.

1300. Have you met with any cases of injury from physical training in your own experience?—I have never met with one.

1301. Let me cite, for instance, rupture, just as an illustration?—I have never come across a case of rupture following any course of physical training or gymnastics; but I have stopped lads, of course, who had commencing rupture, from ever going on the apparatus.

1304. Could your measurements be of any assistance to the Commission in giving us a standard of health of the children at various ages, as to their height and weight, and so forth?—No, I do not think they could. If that were done, that would have to be done most thoroughly and elaborately, really to be of benefit.

1305. And in regard to training, physical training, of female children, what are your views regarding special clothes?—Oh, I think, undoubtedly, where special clothes can be used, the divided skirt, of course, is very much better. It gives them a much freer movement. I fail to see how free exercises can be very comfortably done with corsets.

1306. Then, a different point,—what is your opinion about games, such as football and cricket, as a substitute for physical training, or to be used along with it?—Well, they are no substitute at all for physical training, because a boy goes out to play football, and it is entirely his own individuality as to how much or how little he does. He may overdo it,—possibly, again, he may underdo it. Again, in football and cricket, it is not all steady systematic use of all the muscles of the body.

1307. I have just one question more. That is, you have been a student in more than one University?—Yes.

1308. Would you name that?—Leipsic and Berlin.

1309. And at home?—Edinburgh University.

1310. Have you seen any drawbacks to the use of athletics in the Universities?—No, I cannot say that I have. No, at least I cannot at the present moment put my finger upon any drawbacks at all.

1311. I mean, does it harm the least intellectual, who devote themselves to athletics?—Well, they waste their time a little bit too much every day. But if they do that, undoubtedly they improve in their general health. No, I do not think that athletics are carried to extreme. In moderation, I think they are most excellent, but if carried to extreme, like everything else, I am afraid they are a little apt to produce bad results.

1312. *By Sir Henry Craik.*—You began your evidence by saying that you thought the disadvantage of the physical instruction in the Dunfermline schools was that it was without system?—Yes, that is so.

1313. And that, as a consequence, you thought it was not beneficial?—Is not beneficial. It is neither one way nor the other; it does not do any harm.

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1314. You have formed that conclusion from having examined the schools, and from having seen that instruction going on?—I have, from having seen several inspections.

1315. Of the physical instruction?—Of the physical instruction, yes.

1316. Was it carried on, do you know, to any extent by sergeants, or was it entirely in the hands of the teachers?—At one time, partly by the sergeant, who is also the janitor,—at other times by the teachers.

1317. And in what way do you think it failed?—It failed, to my mind, not so much from what one actually saw at the inspection, because what I saw there was pretty light work,—taking to the eye, but by no means work that I would have called exercise, that I have described as beneficial.

1318. You did not look, of course, for gymnastic exercise?—Not purely physical training.

1319. Free gymnastics?—It was Indian clubs, very pretty, very nice, but one could hardly describe it as being beneficial; more, from this point of view, I knew it had not been worked up to by what I call the systematic course and the grinding of free exercise; it was a superstructure without anything below it.

1320. Was it carried on to the accompaniment of music?—To the accompaniment of music.

1321. Entirely?—Yes.

1322. And that, you think, is so far a weakness?—No; I have no objection to that, if it is the outcome of a good steady systematic course.

Music: no objection if sound training previously given without.

1323. But does not the accompaniment of music rather take away from the spontaneous effort?—Well, we never like to train any pupil in the exercise with the music; but when they are fully trained, and know the exercises well, one does not object then to music; but I think they are undoubtedly far better trained if they are trained by word of mouth, and to keep their own time; but for a thing like a display, or anything of that sort, music is used to make it a little more effective.

Uniform system desirable.

1324. Then you think that it ought to be carried on according to a uniform system?—According to a uniform system. That I think is the point, and the system to be drawn out at the beginning of each term, so that all the schools, each grade—the infant department, Standards II., III., IV., V. and VI.—should actually each day take the same exercises.

1325. Take the same exercises?—Take the same exercises; to be applied to all infant departments and all the school. And then for the second class all the same exercises, and the third, and so on.

1326. And do you think it is necessary to give all those six divisions that you give?—Well, I think they might be cut down to four.

1327. It struck me that there were some exercises which in their earliest form might be used even for the young children?—For instance.

1328. Raising the knees?—Well, in the infant department I would not do that. I think to hop, especially round the room on one leg, does cause a very distinct amount of exertion.

1329. To hop round a room; but even a short hop?—Well, then, for a short jump the authorities seem to think, and in that I must say I agree with them, that for the infants I would be inclined to leave that out.

1330. Do you base your system on the Aldershot system?—One can hardly base one's system on the Aldershot system, because they deal there with the strongly developed healthy man.

1331. But they have it adopted in the military schools for children?—Is that so?

1332. It is carried out very fully, completely there?—Is that so?

1333. Adapted and modified to suit the young children?—Is that so? Then do they use that Aldershot system?

1334. Exactly?—We have been inclined, so far, to accept the marching—marching on tiptoes, and the

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free standing movements in the infants' department. It will be a debateable point whether the children should not go a step further forward.

1335. You said one great desideratum was that the teachers should be trained?—Yes.

Teachers: well-trained expert preferable to either ordinary teachers or old soldiers: length of training necessary.

1336. You prefer to have training given to the ordinary teachers rather than to have special experts brought in for this?—No; my idea would be to have a special expert, a really thoroughly trained man, to train everyone; but I do not see how that would be practicable; it would require so many of them. Of course, I would prefer a really first-class expert to the teacher, or pupil teacher, who has been trained.

1337. You feel no doubt as to that?—I feel no doubt as to that at all.

1338. You think it is not to a certain extent counterbalanced by the fact that the teacher is responsible for the general discipline of the school, that he is acquainted with the scholars, that he knows their idiosyncrasies, and that he can work it in with the general work of his school better than an outsider?—Yes, there is something in that.

1339. But you think it is not counterbalanced by the other consideration?—No; the expert, I think, is always better than the amateur, a well-trained expert.

1340. And from what class do you propose to draw that well-trained expert?—That, of course, is difficult—to get good instructors; I know nothing so difficult. The instructor that we have had now these six years, I drew from the amateur class of gymnasts; a man with a thoroughly good reputation, who was himself the best gymnast in Scotland; but, much more important, he had been training teams for physical training competitions. That is the reason why I took him. But he was not a trained instructor, and had a good deal to learn in that line; but being a man of first-class intelligence, he has now trained himself to be a first-class instructor; but I admit that the first year his power of imparting knowledge was rather weak. Only, he found out his faults, found out his mistakes, and has rapidly improved, to be now, I believe, a very first-class instructor.

1341. You prefer such an instructor to a non-commissioned officer from the army?—Yes, I do.

1342. Therefore you reject, in an ideal system, either the ordinary teacher who has obtained special training, or the non-commissioned officer, familiar with military drill, and you think you must look to a class of more or less professional gymnasts?—More or less professional teachers of physical training. I am very anxious for the word 'gymnast' and 'gymnastics' to be left out, because it is so associated in people's minds with wheeling round upon a bar and doing various exercises upon a bar, which is only a sport—the outcome possibly of physical training—a sport the same as football or cricket is.

1343. But do you think that you would ever, apart from this gymnastic training, develop the class of people who will devote their lives, not to military drill, but solely to the physical exercises that may be used in schools?—Yes, that is the class of man that I should like to have—the man of good intelligence, who is well trained, not only in the theory, but in the practice.

1344. It must be very rare to have such a man in the ordinary State-aided school in Scotland?—You do not have such a man in the State-aided school in Scotland.

1345. No, we have two classes of men; we have the ordinary teacher——?—The ordinary teacher.

1346. He may have some training?—Yes.

1347. And we have, in many cases, encouraged the employment, as instructors, of firemen and non-commissioned officers in the army; but these classes you set aside?—I do not set them aside; you understand what I mean. I only set aside the ordinary non-commissioned officer in the army, who has only a knowledge of ordinary military drill. The ordinary janitor you get is not a man with an Aldershot certificate, but simply a non-commissioned officer—most likely a sergeant—who has taken his discharge, and is conversant with the ordinary military drill, and the physical exercise as used in the army in his time, which I do not think is the system useful for children.

1348. What length of training would be necessary to equip a person who was to take this sort of instruction?—I would say six months' training, with an examination at the end of that time, and also with, once a year, a course of, perhaps, one month to six weeks for the next two years, afterwards to see that they are still remaining fully conversant with it.

1349. If ordinary teachers devote, say, six weeks for, say, four years to such work, you think they might get training that was sufficient?—Quite so.

1350. Are you aware that they might do that at the present time under the regulations of the Department?—I believe that is so; that they might do it.

1351. And would have assistance in doing so?—And would have assistance in doing so.

1352. You spoke of the teachers in Dunfermline obtaining training at your gymnasium paying a fee for a certificate which was granted to them?—For the examination, yes.

1353. Why have the authorities of Dunfermline not made use of these opportunities offered by the Code for the training of teachers?—The School Boards have paid.

1354. I am not speaking of the School Boards; I am speaking of the opportunities offered by the Department from Imperial grant?—Ah! that I cannot answer, because I do not know.

1355. Why do the teachers pay for their certificates when they can obtain certificates through the Department?—I have already said that the School Board have paid.

1356. Yes, the School Board; but why should the School Board, or anybody else, pay for a certificate which can be obtained from the Department without any charge at all?—I do not know that; I cannot tell you; I do not know.

1357. Then, perhaps, lack of organization and arrangement in Dunfermline is partly due to ignorance of the conditions that are offered?—That is quite possible.

Gymn in Du line: who a 'phys trainin 'gymn

1358. With regard to the gymnasium, with which you are specially conversant, that applies of course only to a very small proportion?—It applies to a small proportion.

1359. You said two hundred in a population of 30,000?—Two hundred in a population of 30,000.

1360. And the age of those who attend is probably between fifteen and eighteen?—Oh, no; a large number of children from the age, I should say, of eight or nine.

1361. Children of school age?—A large number of school children, schoolboys' classes and schoolgirls' classes.

1362. Then they belong, I presume, to a class that is above the class attending the ordinary State-aided school?—No; they are simply the ordinary little boys and the little girls that go into the Board Schools. We have special classes for the better-class children—that is a better thing altogether—much higher fees are charged; but these are the ordinary boys attending the various schools—Commercial School, Queen Anne's School, and so on.

1363. And why should not the School Board, if they consider this instruction to be for the benefit of the children, subsidise it as a branch of their own school?—I wish to goodness they would; I cannot tell you why, but they have not. There is no aid at all given to the children to pay the fees in connection with the gymnasium; it is purely a voluntary matter; either children in part or the parents in part pay to be trained.

1364. Of course the training there is more in the nature of gymnastics?—No; that is the one point that we have always kept. 'Gymnastics' it is not called; it is the 'physical training.' For instance, it is never called 'gymnasium'; it is called 'Carnegie Gymnasium 'Physical Training School.' My object has been to keep out the word 'gymnastics.'

1365. That is, so far as the children of school age are concerned?—Yes.

1366. But you spoke of those classes which were attended by young men for three nights a week?—Yes.

1367. I presume that the object of these young men is to develop their muscles in gymnastic exercises?—Well, that is partly it; but the main thing is the physical training. As I have already said, there is no young lad allowed to go to the apparatus until he has taken the preliminary quarter of an hour, twenty minutes, or the half hour as the case may be, of physical training. For instance, in support of that there is a programme of a display given in which there is a mass work of physical drill; of eleven items, four items are mass work. The mass work is one of the most essential things.

1368. I think the two instances you give us were those of pupils who had become very expert gymnasts?—They had become expert gymnasts, the result of physical training.

1369. An object that these young men have in giving up their evenings must surely to a large extent be to acquire dexterity in gymnastic exercises?—Yes; one would think so; but I tell you, that out of a class of fifty it is difficult to get twelve to come forward and be gymnasts.

1370. Be gymnasts?—I mean to go in for apparatus work entirely; the preponderance come for the physical training. There is a large number who come who never go near the apparatus at all.

1371. You say that those young men from fourteen to eighteen give up three nights a week, for what number of hours each night?—They are supposed to be there from eight till ten, but they are not that time under instruction; I should say from a quarter past eight to a quarter to ten.

1372. One and a half hours three nights a week, simply for marching?—Dumb-bells, bar-bells, Indian clubs, free exercises.

1373. And what number do that?—I should say the class would average about forty each night. Of course, towards the close of the session a certain number drop off. After the physical training is done, then they get the opportunity of going to the apparatus, but never until the physical training is done.

1374. Then you think that for a large number of the youths of that age, you might get them to come up for that sort of work three nights a week?—Of course there is no doubt that the gymnastic part of it is undoubtedly an inducement to some; but there is just as large a number come for the purely physical training part of it alone, some who never go to the apparatus at all.

1375. That of course is contrary to our experience with regard to Continuation Classes. There are very few Continuation Classes where we could get anyone to give such an amount of attendance?—Well, the Continuation Classes that we have in Dunfermline are just treated on the same lines. First of all a course of physical training, and then after that they are broken up into squads and go to the apparatus.

1376. And do these Continuation Classes come under the inspection of the Department and seek for grants?—I do not know; they have never been inspected that I know; but there is a grant.

1377. They could not get a grant without inspection from the Department; the grant must come from some other source?—It may come from some other source.

1378. With regard to these Continuation Classes, you made a statement which, I think, must be based upon a misapprehension, that these physical exercises could not be recognised without the pupil taking two or three other subjects?—That is the fact, sir, in Dunfermline. I will read it again.

1379. I have not misrepresented you?—No, sir; that is down absolutely in black and white.

1380. I suggest that it was based upon a misapprehension?—Well, what the higher powers are I do not know, but that is as it is represented to us; they have to take two or three other subjects as well.

1381. It might be well that it should be known that all that is required is that as a rule they should be in attendance at a class in one other subject?—In one other subject.

1382. And you stated at another part of the evidence that you gave lectures on hygiene. Well, we have in many cases accepted lectures on hygiene as the other subject?—Is that so? That has never come under my personal knowledge at all.

1383. You think that probably were better understanding of the opportunities opening, these Continuation Classes might be considerably extended and made more efficient?—Very considerably extended on what you have said, that is; as it is undoubtedly possible we may have taken it up wrongly as it has been represented to us.

1384. And in the Continuation Classes that are carried on in this way you speak of fees?—Yes.

1385. Fees are very unusual in the Continuation Classes aided under our Continuation Class Code; I am not aware that they are charged in almost any case?—But the fact is, we do not charge the individual lad fees, you see, but the authorities pay us—pay the gymnasium so much per lad—per head, for the instruction that is given here.

1386. What authorities?—The authorities under which these Continuation Classes are carried on—the School Board.

1387. But I thought you said it was one difficulty in the attendance of scholars at these Continuation Classes which you thought might be of great use, that they had to pay a fee which was too heavy for the bulk of the young men?—No, sir; you took me up wrongly there. I think that was not applied to the Continuation Class at all, but applied to lads after they have left school.

1388. Do the Continuation Classes only apply to lads after they have left school; they apply to no other?—But I suppose lads do not attend the Continuation Classes till they have left school; do not want to have any Continuation Classes; I suppose they want to come to the gymnasium.

1389. Why should not that be called a Continuation Class?—I should very much like to have it so; but in Dunfermline, at the present time as the arrangement exists, they have to take out other classes as well before they are allowed to take out a class for physical training.

1390. *By the Chairman.*—By whom?—That is a very difficult question for me to answer. By those in authority; by the School Board, I presume, who manages.

Continuation Classes: conditions of grant not properly understood in Dunfermline.

1391. *By Sir Henry Craik.*—You pointed out one objection to the Continuation Classes?—Yes; that they had to take two or three classes.

1392. That they had to take other subjects; well, I pointed out that that was to some extent a misapprehension. You pointed out another objection, that they had to pay a fee which for boys of fourteen to eighteen employed on scanty wages was too large a fee?—Yes.

1393. That seems to me to be based on another misapprehension; because in almost no case of Continuation Classes is any fee charged. I could not at this moment name in the whole of Scotland a case where a fee is charged in an ordinary Continuation Class?—Then may I take it from you that any lad who has left school can come to the gymnasium to take a course of physical training there, and that count by itself a Continuation Class if he takes no other Continuation Class whatever.

1394. You are carrying it too far; I know nothing about the gymnasium. I can only say that if a Continuation Class were opened by the competent authority for physical exercise, combined with lectures upon hygiene, the Department would be prepared to give grants to such a class—to the authority starting such a class upon the ordinary conditions, and that the grant that we give, as a rule, enables these authorities to dispense with fees altogether?—Well, I can safely say that is not as we understand it in Dunfermline. I never had it put to me in that way before, and the practical outcome has not been that.

1395. To return to another point. You stated that

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the time in the ordinary schools that you thought ought to be devoted to this work was twenty minutes daily for the infants, and forty minutes for the older classes?—Up to forty minutes for the older classes. I would make forty minutes the limit.

Physical training: time to be devoted *per diem*.

1396. Are you aware of any school where it even approaches that amount?—No, none of them.

1397. Forty minutes of drill is a good deal?—It is not continuous drill.

1398. How would you break it up?—I would break it up: in the infant department, say twenty minutes—5, 5, 5, with a five minutes' interval broken up in between; that is actually fifteen minutes' drill.

1399. How would you break up the forty minutes?—Supposing they had five minutes.

1400 Five minutes' drill?—Five minutes' marching; that would include taking as it stands here, marching and marching on tip-toes.

1401. I am not speaking of what it would include; but would you just explain how the time would be broken up; you would give them five minutes?—Of marching and marching on tip-toe.

1402. How long interval?—Supposing you give them two minutes' interval after that, then five minutes of the free exercises, and then a short march at the finish; the twenty minutes would be left to the discretion.

1403. The forty minutes would cover an hour and a half a day of school time at that rate?—No; forty minutes, as they get up to the other classes; the whole thing forty minutes.

1404. Forty minutes, broken up as you describe, would mean an hour and a half?—I want the twenty minutes, from start to finish, to include the interval, and the forty minutes includes the intervals.

1405. *By Mr Fergusson.*—When you said that physical training was haphazard and a waste of time, were you speaking of your knowledge of Dunfermline only, or have you any knowledge of schools all over the country?—My statement was made simply as I have seen it carried out in my own town of Dunfermline, which I am referring to want of system.

1406. Though you said you admitted that an untrained person who went to look at this work might find it taking to the eye?—Yes.

Inspectors: must be properly trained.

1407. I suppose that means that you think an untrained eye is not capable of understanding the niceties of physical training?—I do not think an untrained eye is able to see whether those movements that the pupils are doing are actual beneficial movements or not; that a person who is going to inspect them must be an inspector of physical training, as he is of reading, writing, and arithmetic.

1408. I suppose you would say that though any of H.M. Inspectors who are not trained to physical exercise report that the training looks well, it does not follow that it is correct; they are not sufficiently expert in training to know?—They are not experts; that is the difficulty, they are not experts.

Instructors, to teach teachers and pupils.

1409. In your answer as to instructors, were you dealing with the instructors who were to teach the children in schools, or the instructors who were to teach the schoolmasters?—I want an instructor to be over all the teachers and the pupils as well—an inspector, to see that the teachers, first of all, know their work thoroughly, and are carrying out their work thoroughly.

1410. That is, a man who goes to the school now and again?—Who would go to the school regularly once a fortnight—go round every class once a fortnight.

1411. And that man, you say, should be a specially trained man; you do not like an old soldier?—I do not.

1412. When you said that, I suppose you meant a man who had been a drill-sergeant; you want an Aldershot-trained man, such as you find in a military gymnasium?—The instruction there is, I believe, splendid; exactly.

Scheme of work proposed: when to be done.

1413. You gave us a scheme of work divided into classes?—Yes.

1414. May I ask you, how did you arrive at that scheme—did you make it for the purpose of to-day, or had you seen it in practice?—Well, that is one we have been following out for some time in the gymnasium as we have it at present; of course it is somewhat difficult there to class your children exactly as you want, but undoubtedly the infants must be handled lightly and gently. It seemed to me that by dividing them into six, one could best divide up the children as to their physical strength.

1415. But you have evolved that out of your experience?—Yes.

1416. It interested me because, curiously enough, it is exactly—you could not have stated it more exactly—the system of training we have adopted in a school of which I have some knowledge?—Is that so. In this I have some great assistance from our gymnasium instructor, who is a man of great ability.

1417. You said nothing about gymnastic work—applied gymnastics—do you consider that is not desirable for children of fourteen?—Well, I have got a note here as regards that. I said in class C, dumb-bells to be made of wood, and, if possible, once a week gymnasium, to make a pleasant break and induce further attendance there. If once a week the senior class were to come to the gymnasium, and there take advantage of the apparatus, I think that would have a good effect to have the apparatus most carefully applied to them, and it might make them a little brighter and throw some interest in it, and in fact make them take to it.

1418. There was another point, because there seems to me a practical difficulty in carrying out what you suggest. You say the work should be done in the morning?—Yes.

1419. And never at the end of class time?—

1420. *By the Chairman.*—I think he said never when the children were tired?—I said never when the children were tired.

1421. *By Mr Fergusson.*—I suppose you mean by that about the end of lesson time?—My idea of doing it in the morning is, the children come into the school cold, and by giving them the advantage of physical training, it seems to me, you create a good healthy warmth in them. That would be in winter.

1422. That would be for the ordinary training done by the teacher?—Yes.

1423. But then the regular instructor comes once a week?—That would be an exception.

1424. You would not insist on doing his hour in the morning. You see the practical difficulty?—You could not take anything so good in the morning in the winter time; it would warm the children up and put their circulation in good condition, and in the summer time, if possible, in the open air, outside, in the playground.

Medical examination occasionally desirable.

1425. Of course to carry out all this grading of children, and not give them work which is past their strength, you would require some system of medical examination?—Yes, and I may also say in the grading; there is one point I want to bring out there. After grading the young children, if I found any with spinal curvature, I would take them all out and send them, if possible, to the gymnasium to be put under the expert, because it seems to me by doing that one might stop very often spinal curvature. The child might lose a certain amount of its school, but certainly it might have a straight back. You see what I mean—that a young child who really showed signs of weakness, and physical training would affect it, I would send those children to the instructor, who is a trained man.

1426. Do you not think that the ordinary schoolmaster and schoolmistress, men and women who are accustomed to children and know about children, seeing these children every day, may be safely trusted to see for themselves the weak ones and to pick out the weak ones?—Yes.

1427. And do you think it is necessary to have a doctor to come and examine all these children at short intervals?—No. I do not know that it is absolutely essential to have a doctor coming round examining them, but I think it would be a very good thing at the beginning of each term if some medical advice were given as to grading the children.

1428. But not very frequently?—No. You do not want a doctor trotting about constantly; I should go at the beginning of each term. I think it would be wise, especially at the beginning of such a system, until it got into working order.

1429. *By Mr Alston.*—Is it correct to classify these branches of exercise as physical exercises, gymnastics, and drill—does that cover the ground, would you say?—Well, physical exercises—gymnastics and drill. I should be perfectly pleased if physical exercises were carried out thoroughly alone.

1430. What do you include under physical exercises?—Oh, every exercise, including marching, step marching, and what is known as the free exercises, dumb-bells, bar-poles, Indian clubs. The apparatus I do not look upon as essential, but I look upon it as a very useful agent; but the essential parts I lay down are the free exercises, in their fullest extent.

1431. And you think the term 'physical exercise' covers that ground?—Ought to cover that amount.

1432. That was without music, I suppose?—That was without music.

1433. Then you use the word 'gymnastics.' Does that mean with apparatus?—Gymnastics distinctly brings in the apparatus.

1434. Then, apart from marching and wheeling in military exercises, you still think you deal with drill?—I still think I deal with drill, undoubtedly.

1435. In the evolutions of bodies of boys and girls? and these three terms do cover the ground under physical exercises?—Completely cover the ground.

1436. You would say that those who instruct in these departments should be thoroughly conversant with the work?—Thoroughly conversant with the work.

1437. You are dead against what may be called the old-soldier janitor?—Oh, impossible; absolutely no use.

1438. Then would it be possible to teach the male and female teachers in a school to instruct thoroughly?—Quite possible. It will not come all at once—in time it will come. Get first a good course. Take an outsider, and keep up to the mark—keep thoroughly up to the mark, not only in any new drill that may come out, but in the mode of instruction, because in the course of instruction they actually have to do the drill themselves and to instruct a whole class of 20, and every one of those 20 instruct the other 19.

1439. By whom should the teachers be instructed?—By a qualified instructor in the department.

1440. Appointed by whom?—Well, appointed by—it would be very much better if they were appointed by authorities.

1441. You mean the Government, the War Office, or the School Board?—The Government—the School Board—those in charge of scholastic affairs.

1442 No matter who appointed him, he should be a first-class instructor—an Aldershot instructor?—It is, no doubt, a splendid school.

1443. And you think the teachers, male and female, could be brought to perfection as instructors?—I do not see why in time they could not be made as good inspectors of physical training as they are of reading, writing, and arithmetic.

1444. Would it not be an advantage to have some teachers who teach the children other branches, teach them physical training, thus having the children always under their care?—It would be no disadvantage in knowing the children, while they would be able to bring them forward in their various mental attainments as well as in their physical.

1445. Therefore you would not require to bring in the outsider?—Except as the inspector.

1446.—Would it necessitate dispensing with many sergeants and non-commissioned officers who are now instructors in Scotland, many of whom are very competent?—Surely those non-commissioned officers in schools are janitors as well.

1447. No, not necessarily; they are brought in from the outside. Why should they not be instructed as well?—Well, they are supposed to have been instructed.

1448. They are purely in a military system?—Yes. You do not want to see a boy at ten or eleven with a stiff military march, fingers sticking hard down. I think that is objectionable. I want to see him light, agile and quick.

1449. The man I have in view is a non-commissioned officer who has not long left the army, who instructs the boys and girls in these schools?—If he is a capable instructor.

1450. Oh, very capable?—That is the man you want.

1451. He would be a certificated instructor?—A certificated instructor.

1452. And from those certificated instructors the male and female teachers could get certificates and go as instructors in various schools?—Along with a course of lectures in anatomy and physiology by a medical man, who trains them in that department.

Ordinary school inspectors know nothing of subject because not experts.

1453. Then it follows from that that the ordinary school inspectors practically know nothing about it?—That is quite true.

1454. He may from observation have gathered up certain details?—He is not an expert.

1455. He is not an expert?—He is not an expert as he is in their mental attainments.

1456. But the other method would cost something, but it would be workable?—I look on the scheme as being, comparatively speaking, a cheap scheme.

1457. I think we may argue that too; we may come to that too.—I cannot say that it is a very expensive scheme; each district with a number of schools requires a thoroughly qualified instructor—I cannot see a much cheaper one.

1458. If it is not that old soldier, at any rate it is not merely the retired military non-commissioned officer who is suitable, unless he is competent to instruct?—Unless he is competent to instruct.

Boys between fourteen and eighteen: desirable they should continue physical training: girls also.

1459. On the other point, after school age, would it be a distinct advantage for the race that boys and girls after school age should receive any inducement to go on with physical exercise and gymnastics, and in the case of boys, to be put through a thoroughly complete military drill, say company drill, and its changes?—Yes, I think it would be of the very greatest advantage—I do indeed, after the age of fourteen—between the ages of fourteen and eighteen.

1460. You would go on with the girls with suitable exercises?—With suitable exercises.

1461. In the case of a boy of that age, military, as far as company drill, would be an excellent training?—Yes, and that includes free exercises in that full physical training?—Yes, it might take all that; but I was thinking of a complete military drill, as distinguished from free drill and marching,—that is to say, company drill, such as the Boys' Brigade.

1462. Such as the Boys' Brigade?—Yes. I think part of the time might be spent in that, but all other part might be a great deal better spent in the physical training and free exercise, and the various forms of free exercises, which are numerous.

1463. Would you have ambulance?—Yes, but not from the point of physical training. As a point of usefulness you might have ambulance.

1464. Still, it is all a part of training the boy to be alert and thoroughly useful?—And thoroughly useful.

1465. We may gather from your remarks, then, all that would be worth the cost?—I think it would be amply worth the cost.

1466. *By the Chairman.*—One or two questions—some of them have been rather overtaken by other gentlemen. About the question of the feeble health of children in Scotland, I rather think Mr Fergusson touched upon it; he asked two questions upon that; I wanted to ask you in regard to your knowledge of people in feeble health, how do you know?—Well I judge of that first of all from my knowledge as a general practitioner, having to see a large number of people constantly.

1467. The second question is, how do the authorities know?—They do not know.

1468. That is so?—Yes.

Swimming: excellent form of physical training.

1469. What is your opinion about the value of swimming?—A most excellent form of physical training.

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1470. Any knowledge of it in Dunfermline?—Yes, swimming baths, which are kept going all summer time, where the children are sent in free; Board School children come in with tickets, and the children taught swimming. I have not got the numbers at my finger ends, but all the schools there are, nature of the swimming matches and so on.

1471. And you do not hesitate to recommend that?—I do not hesitate to recommend that, kept under tight discipline—children not allowed to stay in the water too long.

1472. That is another very useful exercise?—Unhesitatingly—a splendid form of physical training, one of the best.

Rheumatism and muscular development.

1473. Professor Ogston asked you about rheumatism, as affecting highly muscular development?—I have never come across it.

1474. You would have nothing to say to it?—No.

1475. Are you not aware—I will take the case of cricket players who have been accustomed to throw cricket balls and so forth—after a few years discontinuance of that, are you not aware that they suffer most intensely from any attempt to do the same thing again?—Because their muscles have all got out of play after two or three years. They have not been doing it. They begin to do it, try to do it as they used to, and overstrain the muscles; the muscles have got out of tone.

1476. No, because the muscles are so well developed, I put it to you?—

1477. I want to ask your opinion?—I certainly think if a man, a very good cricket ball thrower, gave it up for some years and then began to do it, he would suffer great pain. I think the reason is very obvious why he suffers pain, because during these intervals he has not been doing it; the muscles have got out of play.

1478. You do not consider an older man having developed his muscles suffers from rheumatism?—No.

1479. Have you any experience, have you studied it, have you thought about it?—No; except putting it as an ordinary medical question, it would apply to the commonsense of medicine.

1480. On a point of rheumatism—where do you find rheumatism generally. In those who have done much or those who have done little or nothing?—Rheumatism you do not find in the young at all.

1481. No, I am not asking about the young people—later on?—Later on in life? Well, that is a question; you find it in men who are getting up in years, and I should say that the feeble are just as much afflicted with rheumatism as the strongly developed people. For instance, a very elderly thin woman constantly suffers from rheumatism. With women who have no physique at all I do not think one can associate rheumatism.

1482. I do not want to talk about old people, but middle-aged people, or verging on middle age?—Well, people verging on middle age; I cannot say.

1483. As a general practitioner you have come across a great deal of rheumatism?—I have come across a great deal of rheumatism.

1484. Dunfermline is not so rheumatic a place as some, but still you must come across a very great deal?—We come across a very great deal. I am not at this moment able to say whether it is most prevalent in powerfully developed people or not. Of course, if a man is exposed to damp and cold—he may be a very strong, big man—but if he is exposed to a damp wet occupation, then he may develop rheumatism, but not because he is a big powerful man.

1485. Have you ever had any experience outside Dunfermline?—Yes, I have.

1486. Beyond Scotland?—Yes, I have had medical experience in the East.

1487. Not in England?—Well, a very short period in England.

1488. Not the West of England?—Not the West of England. My experience was very limited. I may say little or none; but rheumatism depends more on a man's actual surroundings than upon his physical development; I do think so; if a man kept in good physical training he would not have rheumatism.

1489. Supposing you have a man properly trained by your system of physical training—that is to say, you put him into what you call a thoroughly good state of health, to be a blessing to his country—how long do you expect that condition to last; I mean you must look to the future in considering all these points?—Well, first of all you put this man into that thoroughly fit condition. That means that not only is his muscular system fit, but his heart, lungs, liver, all his internal digestive organs are fit.

1490. I venture to ask you for how long?—Well, that is a question that is most difficult to answer.

1491. You know what I mean. If this physical training drops?—He will always retain the traces of it. I will tell where you will see that—in a man who has left the army, has come to civilian life, is slack and lazy; when you see him strip you say, 'There is a good 'man, a well, powerfully-developed man, who has gone 'a bit to seed, put on flesh.'

1492. Possibly from drink?—Very possibly. You see he has gone but you see the remains, and doctors can always judge of a man of that character and say, 'There is the remains of a rattling good chap.'

1493. I am rather pleased to hear you say that, as what has been said seemed to indicate rather a prejudice against old soldiers?—I have not. I am very keen on the service; I am a keen Volunteer myself, but, when it comes to this work, I do not think the old soldier is able to do without a modern training. I have no objection to the old soldier if he has a modern training in physical training.

1494. No?—Without a modern training, but an expert old soldier is as good if he has a modern training.

1495. Training has altered within the last six years; there is not so much of the stiffness and rigidity?—I know that is perfectly true.

1496. Those who have been in public schools—ordinary public schools—and for some years past; I mean to say, of your own age—have you experience of them?—I have.

1497. Do you consider there is any difference, or any great difference relatively between them and their fathers, taking the two ages and remembering the fact that all the physical education that they have gone through has been of what you might call a distinctly haphazard description. I do not mean to say it has not existed very largely, but it has been under no rule or guidance; it has been principally free-will exercise?—It is a terribly difficult thing, you know, to judge a boy of fourteen and a man of fifty—I mean to say, to compare them together.

1498. I was trying to get them down to anything you would compare in your own knowledge?—No; I would not care to answer that question without very careful consideration.

1499. Speaking generally, from those you remember when you were young; those of that class, of that type, and those that you know now of a similar age?—I would not like to say there is not deterioration.

1500. You do not say there is very much difference?—I do not think in the upper classes you have very much deterioration, because you have compulsory football and cricket in the public schools.

1501. Not necessarily. You know there are a great many loafers in public schools?—A great many loafers, but still football is compulsory; racquets or something comes in.

1502. Not altogether; a little of it?—In Scotch public schools, you know, it is a terrible job to get off football, and a worse job to get off cricket; and then you have very much better food.

1503. That we have no public evidence of?—I could not answer that question.

1504. I think it quite fair to take a class that has more or less been under the same conditions for a great many years past, and those conditions have certainly not been very much altered. There may be a little more obligatory physical exercise than there was.

There is in some cases, no doubt, but still to a large extent that is a class which has taken that considerable amount of exercise. I want to know from your medical experience if you could tell us whether there was much difference?—It is rather a difficult thing to compare, and I do not think that there is in the class that you refer to. I do not think so; no, I would not like to say that there was.

1505. You see my point?—I see your point perfectly well, and it is a terribly difficult one to answer. The difficulty is to get it all into your mind's eye.

1506. May I put it to you as a medical man whether you think on the whole the want of difference is owing to the continued regular good feeding of that time?—The continued regular good feeding, no doubt, is a very, very powerful factor.

1507. Do you not think that is largely at the bottom of differences between one class of society and another?—There is not the slightest doubt about that.

1508. I mean it is a very, very important point, almost as important a point as physical exercise?—You cannot give a man physical exercise unless you feed him.

1509. You can give him feeding without exercise?—Ah, but the combination; it is the combination point; to give him physical exercise without feeding is doing him a lot of hurt, and feeding him without giving him physical exercise is also doing him a lot of harm.

1510. I want to put this to you; I daresay you will join with me in saying that there have been, and are even to this day, a very great number of intellectual men who are of the utmost importance to their country who are absolutely deficient of any sort of physical exercise whatever. I do not want to mention names, but I could do so. You will agree that that is so?—That is so.

1511. I think it is only fair to put that forward when you are trying to get a general system, that everybody is to be educated upon exactly the same broad plan; I think it is quite fair to realise that there is and there has been such a class of people, of mind—mind prevailing over body to that extent that they have been the rulers of the country without having any physical education whatever?—That is perfectly true. The ablest man I know has not left his study for twenty years; one of the ablest men I know has not left his bedroom and his study for twenty years.

1512. And yet the want of that physical education has not merely not affected his ordinary health, but it has not affected his influence?—No, not a bit.

1513. His actual influence over his fellow-creatures and over the world's history?—That is quite true.

1514. Put yourself in that way so as to say there is another side to the question?—There is another side to the question.

1515. Is there anything you can say further in backing that up?—I look upon those men as being the complete exception. We do find them; men of exceptionally brilliant power who have never done a day's severe hard work or physical work in their lives, and we do find those men occasionally.

1516. And yet with those examples before you, you will go so far as to say that as an ordinary general rule physical training will not affect high mental training?—No.

1517. And not only will not affect it, but will rather improve it?—Will rather improve it.

1518. I mean so far as you say having these examples before you?—Having these exceptional examples before me,—having these exceptions before me.

1519. Are they exceptions, or are they exceptions in what you would wish to see?—In my experience I can say that they are the exception. There is many an able man I know would have been a great deal better by a great deal more physical training; would have been a much fitter man, and his mental attainments much more useful, had he had a stronger constitution and a stronger body.

1520. I might take you back historically. What have you to say to what was going on, let us say 100 years ago, at the peace of Amiens; what have you to say to that?—There was not much physical exercise except for country people in those days.

1521. Are you able to say from a medical point of view whether there was much deterioration?—No, I am not able to say; I am not able to answer that question.

Physical condition of nation: historical references.

1522. Yet you can imagine from what you saw, and what our soldiers and so forth were able to do, which is perhaps the only means we have of judging what physical courage and endurance they were capable of,—you cannot say much against what there was at that time?—But still, in those days our soldiers, a larger number of them, were not drawn from great big towns like Liverpool, Dundee, Glasgow.

1523. Do you happen to know there was a regiment—the 90th Regiment—raised in Perthshire by Col. Graham, principally composed of prisoners drawn out of the prisons—'Graham's Grey Breeks,' in 1795 or 1796—the scum of the universe?—Yes, the scum of the universe are physically very often quite fine men sometimes.

1524. Provided they do not suffer from gaol-fever?—But they had not died of gaol fever; they had got rid of it—the survival of the fittest.

1525. Within six years of the time I gave you—a hundred years ago—there was an instance; I do not say it was actually true—to a certain extent it was true?—The conditions of life were different then; probably more porridge and milk used; less tea.

1526. The conditions of life in towns were not very different, were they?—As regards feeding.

1527. The exercise in towns was almost nil?—The feeding element comes in; probably they ate much more wholesome food. That is a very problematical point; I do not feel equal to giving you any opinion.

1528. I am trying to get you to put yourself on the other side of the hedge, as it were?—Oh, I admit there is an opposite side.

1529. In order to go against that, you would have to show that a totally different system of conditions prevailed at the present time?—Well, I am not sufficiently up in the conditions existing then, to compare them with the conditions existing now.

Physical training: most beneficial within limits.

1530. At all events, I may say that you are an enthusiast for physical training?—I am, because I have seen the beneficial results during ten years' experience.

1531. And that you firmly believe that the more the people of the country have of it the better they will be—of both sexes?—Within certain limits.

1532. As far as they are able to bear it?—Within the limits of reason. I was talking to a colonel of a newly-raised battalion, and he told me that physical training had made his battalion. That he had raised a new battalion from the very first; he got a hundred from the first battalion to start it; and he told me, coming up in the train last night, that he considered physical training had made his battalion.

Country children: must be differentiation.

1533. As regards country children, have you any experience of them—as a medical practitioner?—I have.

1534. Do you consider that, in Scotland, the comparatively long distances that they have to go to school go in any way towards a lessening of physical exercise that might be required of them in school?—Most decidedly it would; because you have taken so much more out of your child before he arrives at the seat of operations; most distinctly it would.

1535. Therefore, in making a recommendation, if we were to do such a thing, as a Commission, we would have to differentiate a little, I think, in some cases—not in all cases, of course; some country children are close by the school?—Quite so.

1536. There might be a differentiation required?—I think that would be most distinctly required. Any children who have to walk long distances to school, I think, most distinctly, you would require to differentiate.

1537. *By Mr Shaw Stewart.*—May I ask one more question on a practical point. In dealing with very

Mr Alan Tuke, M.B., C.M.

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small children you laid some stress upon the tip-toe work?—Yes.

1538. That brings in the question of boots, of which we have already heard a little; and we were informed it has been a difficulty in movements of that sort; and one witness advocated work without boots?—Yes; that is perfectly true; a large number of the boots have absolutely a sole as unyielding as that to walk.

Clothing: boots: slippers, should be provided.

1539. *By the Chairman.*—Clogs, for instance?—They use clogs in England.

1540. In Scotland there are clogs?—For boots; I have not come across them. The boots are absolutely unyielding; and in the gymnasium they wear gymnastic shoes. That could be very easily obviated by twenty or thirty pairs of india-rubber slippers being procured; they would only cost a very small sum of money.

1541. *By Mr Shaw Stewart.*—I would put it in this way: in the ordinary Board School would you say that the tip-toe exercise is so important that some means should be found to deal with the boot question, or would you overlook this particular form of exercise?—As a medical man I would not on any account overlook it, with the extraordinary prevalence of flat feet that we have got to face.

1542. You consider it very important for the child's early training?—To get rid of flat feet. It renders the boy absolutely useless for the services; the Army or the Post Office, or the Police Force; they will not touch them with flat feet.

1543. It forms a practical difficulty in the Board School?—It forms a practical difficulty in the Board School. I have not thought of that. In the gymnasium they get the shoes at once.

1544. Can you think of the best way of obviating that difficulty in the Board School?—I should say thirty pairs of gymnastic shoes at about 10d. or 11d. a pair. That could be done, or slip off the boots for the time being.

1545. *By the Hon. Thomas Cochrane.*—Sailors do their work barefoot?—Barefoot; there is no reason why they should not do it barefoot, or in their stocking-soles. In the summer time, in the Board School a very large proportion are barefooted anyway; it is only in the cold winter months.

1546 *By Mr Shaw Stewart.*—But you attach great importance to the tip-toe exercises for small children?—Most distinctly.

1547. *By Mr Fergusson.*—One question, arising out of what the Chairman said about country children who had long distances to walk. You mean you took into consideration, in settling what physical training you are to give them and in grading them into certain classes, which child had a long way to walk and which had a short?—Yes, quite so.

1548. You would not alter the general grades for country and town children?—No, I would not; because many country children live quite close to the school, but as to those who have a long way to come they would use their discretion.

1549. You would take that as a matter that ought to be considered?—A matter that ought to be considered.

The witness withdrew.

Mr J. L. Robertson

Mr J. L. Robertson, examined.

1550. *By the Chairman.*—Now, will you just say what you are?—I am one of His Majesty's Inspectors of Schools in the north of Scotland.

1551. Will you say what you are at the present moment?—Acting Chief Inspector of schools for most of Inverness-shire and part of Ross-shire (including Lewis and Black Isle).

1552. And have been so for some time?—Yes, a number of years.

1553. Do you know how many at all, more or less?—About twenty-two years since I was appointed to the staff.

1554. But I mean in that particular district?—In that particular district about thirteen years.

1555. Before that where were you?—In the more northern part of the mainland of Scotland: part of Ross-shire, and all Sutherland and Caithness, with the outer Hebrides of Inverness.

1556. And you kindly produced a little *précis* of evidence. Have you got a copy of it—would you mind going through it for the Commission?—The first point I give here is, some form of physical drill is now universal in the schools in my district, and since it has been more methodically introduced it has had a very beneficial effect on the discipline of the schools. That is very marked indeed. Military drill, however, is given in only a very few schools in the very wide district that I have charge of, and the want of competent instructors checks the development of military drill a good deal in the schools. There are only five or six places in the whole district where formal military drill is given as part of the regular school drill, but the County Committees of the two counties that I have specially to deal with favour the establishment of Classes for Teachers under an Article of the Code—Article 91 (d)—for training the headmasters of those schools at centres in physical and military drill, and that instruction has been extremely popular. We carried through a large class in Stornoway for the benefit of the whole island of Lewis. We had about thirty teachers trained under the local Volunteer drill instructor, and in Dingwall we had a considerable class, and we have one going on at the present moment in Inverness on Saturdays. We take all the teachers right round from Beauly round to Dalwhinnie almost, and down to Fort Augustus for the mainland section. The instructor—a sergeant attached to the Barracks, Inverness—was recommended to me by a military friend as a man singularly fitted to give physical training, with the accompaniment of military drill. He is supposed to be the special instructor at the military Barracks, Inverness, in the matter of physical drill, and the County Committee, of which I happen to be chairman, agreed to engage him, and he gives, according to a graduated syllabus, a course of physical and military drill to our teachers. We expect that they afterwards, in their schools, will introduce the subject. These classes are carried on under Article 91 (d) of the Code. Under that Article the County Committee expect to be reimbursed part of the expense; three-fourths of the expense is paid by the Department. Under heading 3 of my *précis* I deal with this item: I say a syllabus or text-book of physical and military drill should be issued under the authority of the Department. We ask instructors who are teaching those classes in every case to be very careful to have a graduated and methodical syllabus made out, so that they should not be overlapping. I also made a point of asking the instructors to make each teacher, during the course of his training, act as drill instructor of the rest of the teachers, with a view to habituate him to the teaching of a class of his own school, of his own older boys. I think it is most important that some syllabus of physical and military drill should be issued, and that, with the authority of the Department. Possibly a small grant under the Code might be given where the physical or military drill is of a very efficient kind, but I would not be very strong on that. I think, now that the Boards have got used to regarding physical or military drill as essential, it should not be dependent for its efficiency on any extra grant, but still the point might be considered if Boards had to appoint special instructors. One of our difficulties in the rural districts is to get good instructors. In the island of Lewis there is a large proportion of the population who bear arms, of 30,000 gr

Physical drill: some form now universal in district: discipline benefited.

Code, Art. 91 (d): training of teachers.

there are 2500 in the Naval Reserve at Stornoway, 800 in the Seaforth Militia, and 500 or 600 in active and other service. There is hardly a village in the island from which there is not a man who has had some connection with the war at present, so there might be soon a very ample supply of local instructors there. In certain School Boards with which I am specially connected, under a minute of the Department, in Lewis, we not long ago passed a resolution agreeing in a sort of general way to fill up all vacancies in the compulsory officership of the schools by the appointment of a drill instructor—an old soldier if we could get one. Of course I do not mean to say for a moment that all old soldiers would be good drill instructors.

1557. *By the Chairman.*—You would like a retired sergeant, or something of that kind, who had had some experience, that is what you mean?—That is what I mean as a beginning. Then I say in the fourth item, all instructors recognised by the Department should have recent qualfications in the latest form of physical and military drill. Everyone knows that these subjects have been very considerably amended or extended of late, and I think it would be very desirable that any qualification should be of recent date. It is quite easy for even drill instructors and retired soldiers to come occasionally to centres where they could have the latest form of instruction. Then I would put a good deal of emphasis on the point that a certificate of efficiency in drill should be granted to pupils. I am not so sure about the day school. Some statement as to efficiency of drill might be indorsed on the merit certificate, which is now a recognised award in public schools, certifying, of course, to a thorough knowledge of the elementary subjects.

1558. Would you simply add it to the merit certificate?—Endorse it 'drill,' to make it be seen that an efficient elementary education involving drill is an essential. Then, to leave the day schools (the ordinary schools where attendance is compulsory up to fourteen), and come to the schools where attendance is voluntary, the continuation schools, I think drill might be made a compulsory subject under the Continuation School Code—that is, looking at the matter from the point of view that it would not be perhaps at present desirable to make drill compulsory beyond the school age and outside that Code. But if drill be still kept on in connection with the school system of the country, the continuation school is the only available way in which it can be done in rural districts. Then, while making drill there a compulsory subject, I would grant a certificate for drill there also. I should not be disinclined to go further, and to recommend that after the school age the Boards should have control over children beyond school age up to a certain age—up to seventeen or eighteen perhaps—and insist upon some qualification in drill, for boys, of course, I mean. I do not think it would be possible to extend it in the case of girls. If between the ages of fourteen and seventeen, eighteen and nineteen, scholars took, or were compelled to take, some form of drill, I think it would be very desirable that the certificate granted on regular attendance at a recognised course of drill and efficiency in that course should be imputed towards the diminution of attendance at the Militia, or a Volunteer corps or the Naval Reserve, or other service. If a young fellow from the country, seventeen or eighteen years of age, has gone through a thorough course of drill—forty or fifty meetings—in the course of two years, I think, more or less, it is rather discouraging to him that he should be compelled to go through the same dull monotony when he goes into, say, the Militia or the Volunteers. A drill certificate would be of very practical value.

1559. And make drill more popular, you say?—Far more popular. In any case, I am perfectly sure in the district I represent it would be extremely popular; even if it were made apparently compulsory.

1560. I should like to ask you just this: the island of Lewis, I think I am right in saying, is almost exclusively Gaelic-speaking?—Almost exclusively; barring the town of Stornoway—three or four thousand people—practically the whole island speak Gaelic at home.

1561. Would there be any difficulty in getting training in England?—A very large number of the population bear arms; there were about 800 of them in Egypt lately. They all speak English; they use it constantly in the schools. Gaelic is a medium for training in English, but there is no young fellow of fourteen in Lewis but understands practically any colloquial English. *Mr J. L. Robertson.* 1 May '02.

1562. You understand children, a certain amount of training for children—small children?—Oh, yes. From five years of age up to about ten Gaelic is very much used in the schools, with a view to bilingual training for the benefit of English. The vocabulary of drill is a very limited one.

1563. In your district it is the rule rather than the exception that children have to go a long way to school, is it not?—In many parts of my district they have to go long distances. Country children: not much difference should be made.

1564. In country districts anyhow?—The schools are very well placed; and in Lewis, which has a very congested population all round the sea-board (except two villages), the schools, as a rule—nineteenth-twentieths—are very well placed, I mean for regularity of attendance.

1565. But still, I am right in saying that they have to go very often considerable distances?—Yes, considerable distances.

1566. What is your opinion on that point as to the necessity for giving the same amount of physical instruction to children who have had a long walk; do you think that you ought to let them off easier than the others, or not much more?—Not much more.

1567. In fact they would prefer joining with the others instead of claiming an exemption?—I think so, instead of roaming about when others are at drill.

1568. Do you notice much difference in the health of children lately, I mean since you have been Inspector in that district?—No, I could not say I have noticed any marked change in that regard. I have no doubt that such does exist.

1569. You are not in a position to state that since the physical training became obligatory there has been any improvement?—I could not say that there has been any that I have noticed.

1570. You do not think it has been going long enough for you to notice?—No, I do not think so.

1571. Have you ever attempted to look at it from that point of view?—No, I cannot say that I have; but one thing I do know is that the children are much smarter in their movements—their class drill as they call it; during the class drill, instead of slouching and floundering about, they move very smartly.

1572. Is there much difference in the schools under you as to room space?—Yes; that would always be a difficulty.

1573. Except in summer, when it could be done outside?—Outside, yes. Even already the physical drill in the school involves a lot of extension motions and all that sort of thing. You can only take a section at a time.

1574. Do you find that your time-tables are pretty accurately drawn out?—Yes, and overcrowded, I can assure you.

1575. You pay great attention to your time-tables?—Yes, we watch them. School time-table.

1576. And do you find they are sufficiently descriptive of this drill? Do they describe clearly in them what occurs in the school?—Yes, as a rule; we occasionally have to object to them.

1577. Yes, but after you have passed them, do you consider they are correct, or are they misleading?—I think I should say on the whole that they are correct. Any visits we pay without notice to the schools we generally find the work being carried on according to the time-tables. I do not favour too elaborate a time-table.

1578. Do you call it military drill?—Drill.

1579. Just ordinary drill?—Drill.

1580. What does that mean; marching about?—No, generally physical exercise and marching about, in some cases.

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1581. When you put that down in the time-table, is it meant to include every child, or only a certain proportion? so many as can be exercised at that particular time?—The intention is to include all.

1582. It is meant to include all?—It is meant to include all.

1583. You told me they have not space enough. In that case it would not?—No, as a matter of fact.

Physical training or drill: length of time allotted. Benefits.

1584. What length of time do you propose in your district for physical training, or what is called drill, for children per week?—I should say about 1½ hours.

1585. Per week?—Yes; per week, I should say.

1586. But you split that up; so far as you know it is split up into smaller intervals?—Yes; in fact it is found to be a recreative exercise in school after a prolonged period of work.

1587. You would recommend the drill to be done when the child was freshest?—Yes; for it I would say this, that drill being more or less of a recreative exercise in schools, it is desirable to give it perhaps after a long turn of teaching in the school.

1588. *By Mr Alston.*—You mentioned, I think, Mr Robertson, that there was a distinctly improved moral tone and conduct in consequence of the instruction in physical exercise?—I hardly put it so strong as that, but I have not the slightest doubt that obedience and promptitude have been developed by the physical drill in the school.

1589. How does obedience come to be developed by it?—Well, I mean to say, prompt obedience to orders and all that. I have not the faintest doubt that it has a very strong reflex beneficial effect, such as you suggest.

1590. And the strengthening both of mind and body; it has a tendency in that direction?—Yes.

1591. Do you find in the Highlands, as we find in the Lowlands, that the boys have a natural aptitude for marching?—I do not know anything they are fonder of; they are extremely fond of it.

1592. It is no tax upon them?—No tax whatever.

Instruction: inspectors generally capable; but supervision by War Office suggested.

1593. You are in favour, evidently, of getting the best instruction?—The best available instruction.

1594. Are the school inspectors competent to say whether the instruction is perfect and the results perfect?—Most of them I know have had very considerable time as Volunteers themselves. I was in two Volunteer services myself.

1595. But those who have not been, would you advocate an expert inspector, to see that the thing was properly carried out?—Well, I think in a very considerable area it would be very desirable that the War Office might assist to give a general supervision, but I think the inspectors would be perfectly well able, or some of the assistants. Nearly always there is some member of the staff who is quite capable.

Teachers: training given.

1596. *By Mr Shaw Stewart.*—Will you just give me a little more information about the physical training given to teachers. You spoke of the instruction they got from an instructor from Inverness?—Yes.

1597. Do they go to Inverness or does the instructor come to them?—They go to Inverness for Saturday classes.

1598. The teachers go to Inverness for Saturday classes?—For Saturday classes. There are now about fifty teachers being trained at Inverness at the Inverness centre. We pay the travelling expenses of these teachers—the County Committee do,—and most of those who are at physical and military drill are also getting special instruction in drawing, and the female teachers are to get special instruction in domestic economy. The classes last from about ten o'clock on Saturday till about three, with half an hour for luncheon. Physical and military drill is part of the scheme of general instruction.

1599. How many Saturdays?—The Department insist upon us giving sixty hours for drawing, at least sixty hours' instruction. Well, that means nearly twenty Saturdays, taking them in at this good time of the year. Then I may tell you that the present class is only for a large part of the mainland part of Inverness, the teachers of which can reach Inverness easily by train or boat. In September we take in the Hebrides (Skye and the islands) to Inverness, with the Western mainland seaboard, giving them a whole September course of instruction in drawing, drill—and household economy (cookery and laundry) for the women. We are gradually, as it were, leavening the whole mass in that way for the benefit of the school children.

1600. By that time every teacher will have an opportunity of going through?—Well, certainly nine-tenths of the teachers. We have no power to compel them. We hold it out as an attraction. Those from the Western County seaboard and the outer islands we give 10s. a week lodging money to, and reasonable travelling expenses. It is a nice pleasant time, I believe. We give them plenty to do; the class costs us initially £300—the County Committee.

1601. I should just like to ask one or two questions on points you mentioned which are of particular interest. You said that nearly every adult in Lewis bears arms either in the naval reserve or in the militia?—Yes.

1602. I have some knowledge of the state of Lewis; I think I had the pleasure of meeting you on the Deer Forest Commission ten years ago, and we heard a good deal then of the congested districts and the bad feeding some of the children get there?—I was in Lewis then.

1603. What is the general physique, would you say, of the children in the congested districts of Lewis. I do not want to go into the political question?—If you had seen the militia—400 of the militia—going to Fort George the other day, certainly from their very appearance on the steamer and in the station at Inverness, you would say that it is a strange thing that destitution should breed bone and muscle of that kind. I do not believe there is chronic destitution in Lewis. I know Lewis most intimately; there is rude, substantial comfort in the rural villages. From the men in the naval reserve you could see walking about Stornoway after drill at night all dressed in their uniform, I should say there is no evidence there of general underfeeding or discomfort.

1604. I have seen myself very ill-fed children in Skye, in very poor surroundings; do most of those children, do you think, grow up to be able-bodied men?—A great number from Skye go into the army, you know, and a few into the naval reserve. We do not regard a Skye man as a sailor. The Lewis men further out in the ocean adopt the sea; men do not do so much of that in Skye. It is quite a sight in Skye and Lewis to see the crofter children looking rather thin in the springtime of the year, when they have not got bronzed by the sun, but after fourteen or fifteen years of age they blossom out into big strong men. The local doctor says it is a very marked fact in his experience, and he says it is a racial strength, strength of race altogether.

1605. The physical training which has now commenced, and which we hope may be extended, will still further improve the physique of these people?—Yes, I think so.

1606. *By Mr Fergusson.*—One question about what Mr Shaw Stewart was asking you just now—the expenses of the teachers coming to these classes. We were told by one witness that these expenses were not paid, but you say that they are paid?—They are nearly all paid by the Department. They give us back about three-fourths, but the travelling expenses have been lately cut off by the Department.

1607. *By Sir Henry Craik.*—Limited?—Limited, rather because it was found that the free scope was rather developing a tendency to extravagance.

1608. *By Mr Fergusson.*—All reasonable expenses are paid?—All reasonable expenses are paid.

1609. Some discredit has been cast on the capabilities of the old soldier as an instructor because he had not got modern training; do you agree with that?—Yes. I think that no man should be allowed to be an instructor of drill unless he is thoroughly up in all the modern developments and had his power of teaching certified to.

1610. But you did not quite carry that out in your own case, because you thought that you were competent to inspect though you were an old volunteer?—One may be competent to inspect without having quite the capacity of teaching.

1611. Do you not feel the want of a little up-to-date knowledge in the physical training?—Certainly.

1612. You would not mind having some expert assistance?—No; I should not mind having that, but I think it would enormously increase the cost and the complexity of school management if expert assistance were wanted in all places, because in this wide district, one has to go to so many remote schools.

1613. In your district it would increase the cost more than others, but still one man can cover a great deal of ground. You have a full day's work when you go to a school; this inspection would only last half an hour?—Quite so.

1614. There is another point. You found it expensive to employ competent drill instructors to teach the children; you cannot get them very readily, and when you do get them it is expensive?—Well, we do not pay much to the army sergeant to give us the drill at these centres, but if you had to send them away to remote places and give two hours a week, say of drill in a school, then it would come to be a very considerable tax upon those Boards upon whom the burden of taxation presses so severely just now. If men could be got locally they might, with the co-operation of the military authorities, have access to barracks and other centres to learn the modern style.

1615. They might be taught the modern system themselves first and go home and teach others?—Certainly.

1616. You could always combine several schools in one district?—Yes. At the Butt of Lewis, there are three schools, of three hundred, two hundred pupils, and one smaller one. One compulsory officer there, who happens to be a naval reserve man of twenty years' standing, told me the other day that he would undertake some drill for the schools; he said he would be willing to go his round, calling at the schools as compulsory officer and also give some drill, but even in his case I would like——

1617. He might go and have some training himself?—Yes.

1618. You think it would be very desirable if you had an authorised school drill book?—I think that is most essential. Yes.

1619. And the feeding question—is there any attempt made to feed the children in any of your schools?—Yes; in a good many schools in the winter time, soup is given, and coffee.

1620. Do the children pay?—In some cases they do, and in most cases they do not, but it is not a very large effort as yet.

1621. Do you find any unwillingness on the part of the parents to pay?—Well, I think down about the Strathspey district they pay willingly enough. Payment is seldom asked. I know in Skye one of the proprietors gives cocoa once a day in winter. Then I think down about Glen Urquhart parents give a little, but there is nothing done in Lewis.

1622. You think when it is done, that it is a good thing?—Well, I am rather sceptical about it, because when I went on a special administrative mission to rural Lewis some years ago, I found the place was more or less demoralised by free rations of that kind; they were giving them brose and clogs, and ship biscuits, and all that sort of thing. My impression was that it was not doing very much good at all.

1623. That is given free?—Not at present.

1624. You are against that?—I am distinctly against that. I do not see any difference it makes.

1625. If they would pay, do you see any reason why arrangements should not be made for them to get a convenient meal?—Oh, certainly not.

1626. *By Professor Ogston.*—Do you include Ross-shire in your district?—Part of Ross-shire—the Black Isle and the island of Lewis. I do not go north of Beauly.

1627. Caithness is not within your district?—No.

1628. West through Skye to the Hebrides?—All Skye, Lewis, and Harris (including St Kilda).

1629. Is St Kilda the only very outlying island in your district?—The nearest land to St Kilda is Harris.

1630. It is the only inhabited one beyond Lewis?—Well, it is far away to the west; it is 45 miles to the west, in the Atlantic, from Harris, and since they started a school there I go once a year or send someone.

Physical education in outlying districts: some difficulties: how to be avoided.

1631. Would you like to tell us whether any difficulty might emerge in arranging to apply this system of physical education to any of the outlying islands in your district?—Yes; there would be some difficulty, especially, of course, as far as military drill was concerned. They have a large number of small schools taught by female teachers. I heard that some of them in the Inverness class are taking really a good deal of the military drill in conjunction with the other drill.

1632. But you think that by modifying it in some way, so that women could impart it, something useful in the line could still be applied to every school, even in the most outlying part?—Yes. I should have the proposed syllabus of physical and military drill sufficiently elastic to cover any reasonable difficulty of that kind.

Conditions in various districts.

1633. I suppose, too, there are considerable racial divergences between the various parts of your districts?—I did not notice any; I find human nature—physical human nature—very much the same there. I think the people of Lewis, especially towards the northern parts, are of much bigger physique than, say, the people of Harris.

1634. Do you notice any difference racially in their intellect?—I cannot say that I do.

1635. At the school age at any rate?—No, I cannot say that there is anything marked.

1636. Any difference between their disposition to disease, say in the Hebrides, Strathspey and Ross-shire?—I think that is very much a matter of social conditions otherwise. In regard to housing; in Lewis, of course, the housing problem is a very urgent and serious one, matters are very backward as yet, though improvement is setting in very rapidly. The common type of crofter house in Lewis in the large section that I have to deal with is the old thatched house, where the cattle are under the same roof as the people. But that order is changing very rapidly. There is hardly a year I go to any of the villages but I notice several new houses, I mean of a modern type—cottages. One of the difficulties in Lewis in connection with the housing question is, that there is practically no lime, not an ounce of limestone, in the whole island, no wood, no slates: all building material, therefore, has to be imported, and that makes the building of modern dwellings expensive.

1637. And do you notice in the classes of the children before you, in a school of that sort, a very great difference in regard to their strength, their health, or the proportion of diseased or weaklings amongst them?—Well, I should say not. I think there is a pretty fair average of comparatively weakly children.

1638. Not sufficient to throw practical difficulties in the way of applying the system of physical training?—No. When whooping cough or scarlet fever sets in in Lewis, the difficulty is in eradicating it. These diseases very often embarrass the school system very much indeed.

1639. In no other way does the racial difficulty come out in the disposition with which they would receive and adapt themselves to this?—I do not think so. I do not think that would be in any sense material. They would all fall in with it.

1640. Is there anything you would like to tell us in connection with the necessity in any special part of your district for teaching, say first aid or swimming?—Well, the County Committees of Inverness and Ross have been giving, for years back, ambulance lessons at centres. We take three centres each year, and we had a good centre in Harris lately, and we have had some-

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thing done in that way in Lewis. The classes go on very well, and were inspected by medical men.

1641. I presume, however, that they are mostly attended by older people?—Oh, yes; not school children, In connection with any cookery classes for school children, we encourage a little teaching of practical hygiene.

Physical exercise and drill: distinction.

1642. *By Sir Henry Craik.*—You spoke of physical exercise being spread throughout the ordinary day schools, but that military drill is very rare?—Yes, very rare.

1643. How do you draw the distinction?—Just the very obvious distinction between formal military drill with formal words of command, and the ordinary exercises; they tend to fade into one another at certain stages.

Military drill: should be increased.

1644. You would like to see the military drill increase more even in the schools for boys under fourteen?—Yes.

1645. You think its effect upon school children is good?—Yes; I think it has an excellent effect on the discipline; its moral effect is greater than the mere physical exercise as such.

1646. And gives some idea of comradeship?—Yes, and all that.

1647. So that you consider in comparing physical exercise generally and military drill, that the military drill has in certain respects real advantages beyond the physical?—Yes, I do think so, and it gives the scholars a sort of practical application of the value of many of their exercises.

Teachers: ordinary staff should impart instruction. Compulsory officers with military training might be employed to teach drill.

1648. Then I gather that you would prefer that the instruction should be given by the ordinary teachers after special training in this subject?—Yes; I think first of all it would be the cheapest arrangement and the one that would be most likely to be uninterrupted, because the teacher is always there and he is acquainted with the style of the children and also with the necessities of his own curriculum. He would adapt the thing better; not that I for one moment would discredit the occasional coming about of someone of a purely military kind.

1649. We have heard of the employment of janitors as instructors in drill, but in schools throughout your district generally these are very rare?—Very rare.

1650. So that you have not only considered, but actually carried out the proposal which is novel of its kind—I am not quite sure if the Commission noticed it—of employing the compulsory officer for drill?—Yes; we agreed lately at the Uig, Barvas, and Lochs School Boards that in the event of vacancies in the office of compulsory officer, we should appoint if possible a man who had some military training.

1651. You think the combination of the duties of compulsory officer and drill-sergeant is not a disadvantage but an advantage?—A very great advantage, because he is looked upon as more or less a detective agency in each parish. He knows all the boys, and would be very helpful I think in every way, and would be able possibly to increase his knowledge of the boys by this means. Yes.

1652. Have you known any cases where this has been used in towns?—The Inverness School Board had one or two cases of old soldiers who acted as compulsory officer and janitor, and also acting as drill instructor.

1653. And no inconvenience was found to arise?—None whatever. I should say that in the island of Lewis I expect that there will hardly be a village that will not have a retired soldier soon, because there are over three hundred fighting at the front in the army—I mean regular soldiers.

1654. In country districts where there are no janitors, you might still with great advantage employ old sergeants as compulsory officers and as drill instructors?—As drill instructors. Yes, I think so.

Continuation Classes in rural districts, where drill taught would be popular:

1655. Then I come to the question of the continuation schools. First with regard to the boys of the age fitted for continuation schools, what do the boys in your district of that age do; how are they employed?—They work about the land and loaf about a lot. I have driven through villages on a Saturday afternoon and I have seen them loafing about, sitting on the hillside smoking and talking, and waiting to get off to the Militia at Fort George. That is the ambition of the Lewis man, or to get into the Reserve.

1656. And if there were Continuation Classes, not necessarily evening classes, but classes, we will say, on an afternoon in the open air for drill, these classes would very often meet the very wish of these boys?—They would be extremely popular I am positively certain, and they would be no interruption to the industrial work of these districts. There is a great deal of spare time in these combined crofting and fishing villages—a great deal.

1657. It would be difficult, of course, to get them together at night, especially in the winter time, but you could gather them into continuation schools on the Saturday afternoon?—Oh, yes.

1658. By doing so you would not interfere with any profitable employment?—Not that I can think of in these rural districts of the counties; there would be ample time for drill.

1659. Then you suggested one or two means of advancing the physical drill in those classes. In the first place, you said that you advised that it should be made a compulsory subject in the Continuation Class Code?—Yes, in the Continuation Class Code.

1660. That, of course, is a different thing from showing that attendance at these schools shall be compulsory?—Oh, quite different; but I would go even further than that. I do not see why you should not make it compulsory.

1661. I will come to that. The first is a thing we might do by the Code at once?—At once; yes.

1662. In the first section of the Continuation Class Code, certain elementary subjects are necessary; we might add physical instruction to them and say you shall not have a Continuation Class in the first division of the Continuation Class Code unless you have physical exercise?—Just so.

1663. That would be in the power of the Department itself?—Quite.

1664. You also thought that an inducement might be offered by the War Office in recognising the training given in those continuation schools in the case of recruits?—Oh, yes. That a drill certificate should be given—some record which would make it a matter of practical advantage, especially in districts where a lot of men went in afterwards to the Militia or the Volunteers or the Naval Reserve, that it should be a practical tangible advantage in lessening the number of compulsory drills. A man, instead of being compelled to take six weeks his first time as a Naval Reserve man, might be let off with a month if he had gone through the course; the monotony of the military routine might be made less deterrent.

1665. What you desire, then, would be the issue of a certificate by the Department?—Yes.

1666. And secondly the co-operation of the War Office, I think, without any legislation?—Yes.

1667. Next we come to the point of legislation, a much more important point in regard to compulsory attendance at these continuation schools—do you think that would be, first of all, in the interest of the people concerned?—I do think so; most decidedly.

1668.—And do you think that it would meet with great objection?—Well, I do not think so. I am inclined to think that in the districts that I come from, it would not be so looked upon.

1669. If it was not made over-irksome or over-troublesome?—Quite so; yes.

1670. You mean that a lad should be required to go two or three hours a week to such classes?—Well, I would not be inclined to state definitely the amount of time he would give, but that a certain number of drills a year should be put in, and a certificate to that effect given.

1671. And that it should simply be looked upon as part of the necessary educational equipment of all?—Just so.

1672. How would you enforce that?—That is a point that would require a good deal of consideration. I think the powers of School Boards should be extended to cover that age at least. Of course you would require some penal or executive means by which you could enforce such a statutory arrangement.

1673. A fine?—It is very difficult to say exactly whether the School Fund should be more or less liable for efficient work of that kind.

1674. The School Fund would supply the teaching, but I mean what penalty would you impose—would it be a fine on an individual who failed to comply with the regulations?—Well, I do not think it would be advisable to put it in that form. I would rather go at the general body. If the School Board had statutory jurisdiction all over—then the obligation would be on the School Boards. If the School Board fails to provide sufficient instruction, take off a certain one-tenth of the grant.

1675. I am not speaking of providing means of instruction; no doubt the School Board would do that, and that would be part of its duty; but I am speaking of the enforcement of compulsory attendance at these Continuation Classes, by what means would you enforce the rule?—At present a Volunteer is liable to refund the amount of grant lost by his failure to qualify.

1676. Supposing you say you shall attend a continuation school, how are you to enforce that rule? Are you merely to extend the present rules of school attendance and give additional compulsory powers to the School Boards?—Well, the only plan then would be to come down on the guardian of the pupil.

1677. But has the School Board to face the duty of compulsion?—Yes.

1678. Then they are to prosecute?—Yes, they are to prosecute.

1679. And would the punishment be a fine?—A fine or imprisonment.

1680. Would you place that upon a young man himself or upon his parents?—His parents—his guardians.

1681. Would you make the parents responsible for a strong young fellow of eighteen?—At eighteen years of age a young Lewis crofter is thinking of getting married, and sometimes does get married at that age; you could hardly say his guardian should be responsible in that way.

1682. It has been suggested to us that there might be a poll tax upon youths of that age, from which they would be exempt if they could provide a certificate of attendance at such a school?—I do not think I would favour that; I think it looks rather drastic.

1683. What would you propose instead?—I would try, if possible, and push at the general body that has the statutory power—such as the School Board.

1684. They have not the statutory power except to appeal to the magistrates?—Well, let them go against the individual before the magistrate for the reimbursement of any loss caused by failure to get a sufficient attendance at drill.

1685. What would be the loss?—Well, I would think that something in the nature of a grant might be given for it from fourteen to eighteen years of age—an Imperial grant.

1686. But suppose no boys from fourteen to eighteen came to the class, then the Board will not have any expense, they will not have to provide the teaching. I do not see how that absence would involve any expense?—None; but if it is made compulsory by statute that drill be taken, and a grant given for efficient drill by the Imperial authorities, then the School Boards losing part of the grant from inefficiency in drill could either go against the individual or the parent.

1687. You would advise a totally different process from any that is at present known?—Yes.

1688. That is not the way we proceed to enforce the compulsory clauses just now. You do not proceed against the parent because his child has not earned the grant, you proceed against him because there has been neglect to provide the child with education?—Yes, I admit that; I must say I have not given much thought to that aspect of it.

1689. At all events, all I wanted to bring out was that by whatever means you think some compulsory attendance at such classes would be not only an advantageous thing for these youths but would not lead to any great objection on the part of the father?—That is my distinct impression.

Instruction: must be up-to-date.

1690. *By Mr Alston.*—It has been represented to us that the instruction in drill should be of the very highest quality and the most modern kind, such as you find at Aldershot; that all instructors, therefore, should be qualified to give such drill. You could not expect from your compulsory officer drill of that kind?—The ex-soldier compulsory officer?

1691. The ex-soldier compulsory officer?—I would bring him to a centre, say to Stornoway for the island of Lewis, where he would get special instruction probably covering a fortnight every four or five years, to bring him up to the most modern requirements. It would cost very little to bring him there.

1692. But it would be a wise course that he should be fully instructed, just as Volunteer instructors have to go to headquarters to learn?—Yes.

1693. So it is perfectly feasible?—Quite feasible.

1694. Those men returning from the front, none of them have any instruction?—No, it would come in time.

1695. Take St. Kilda, for instance. Of course, in your scattered district, you have great difficulty in getting this physical training fully carried out?—Oh, yes. I think there would be a few places where it would be almost impossible to get anything like a modern instructor.

1696. In St. Kilda is there a young population?—There are twenty-four children in the school; it is quite a special school; it is not worked just now.

1697. *By Professor Ogston.*—In some parts of your district it would be impossible to give physical education in Scotland?—Of the most modern type. There is some form of physical education in all the schools.

Deterioration of race in Western Highlands not observed.

1698. *By Mr Alston.*—Just one other point. It is a general impression that the race is deteriorating, particularly in the cities. Some witnesses have said, not. Do you find there is any deterioration throughout the Highlands on account of change of food from porridge and broth, let us say, to tea and slops?—Well, I cannot see much evidence of it as yet. There is a good deal of plain rude food, I believe. In the case of women the amount of tea-drinking is decidedly great, particularly, I am told, in Shetland, where it is simply appalling the quantity of tea they take. A great deal of indigestion occurs in consequence.

1699. You do not see any change in the children on that account?—No.

1700. *By Professor Ogston.*—Is Shetland not in your district?—No, it is not. My statement is from hearsay. With us in the Western Highlands I do not see much evidence of deterioration as yet.

1701. *By Sir Henry Craik.*—Are there any schools that you would suggest that the Commission ought to see in your district, or any places that it would be desirable that they should visit?—

1702. *By the Chairman.*—More than that, any evidence from such schools—or from such schoolmasters—teachers?—Unfortunately there are very few schools having military drill outside the town of Inverness, which is the biggest town in my district; but Fort William and Kingussie have it, and also Stornoway. These are the four leading places.

1703. *By Mr Fergusson.*—May I ask this: you have told us that you think these young men who sit on the hillsides smoking, waiting to go into the Militia, would not object to having drill made compulsory from fourteen to eighteen?—I do not think so.

1704. I suppose you admit your district is rather exceptional?—Yes.

1705. The people in your district have much more military ardour about them than in the ordinary Scotch counties?—Still, one cannot help seeing, when passing south by train, a large number of young fellows idling

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about the country. There is a large lot of loafing about in the villages as you pass them. I think if shooting clubs were ultimately started in a number of these places it would give an immense impetus to physical and military training, now that shooting can be done so easily—Morris tubes and all that.

The witness withdrew.

Adjourned

FOURTH DAY.

Friday, 2nd May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr A. E. Scougal. 2 May '02.

Mr A. E. SCOUGAL, examined.

1706. *By the Chairman.*—You are His Majesty's Chief Inspector of Schools for the Western Division of Scotland?—Yes.

1707. Have you been long in that capacity?—A little over two years.

1708. And before that?—I was stationed in Edinburgh; Inspector of what one might call the Leith and Lothians district there.

1709. And the Western Division, where you are at present, comprises what counties?—Well, it is really all the West of Scotland, beginning with Argyleshire? Argyle, Dumbarton, Bute, Renfrew, Ayr, Lanark, Dumfries, Kirkcudbright, and Wigtown, I think, are in that division.

1710. Have you got a copy of your notes?—I have.

1711. Will you please read them?—I thought I might mention preliminarily that, besides my experience as an Inspector, I have always personally taken a very keen interest in athletics and sport from my early school days, and I carried this on by playing football regularly, I think, for thirteen years after I was an Inspector. I have been interested personally; and then I was for seventeen years an officer in the Border Rifle Volunteers, which gave me some insight into these things

Existing opportunities (1) in elementary schools.

The first point that was referred to me in the Secretary's note was *the existing opportunities for physical training*, and I have put this in the forefront, I think, as a point of considerable importance, especially since the year 1895, when the Code made a change emphasising the importance of physical drill in connection with the discipline. We have had since then physical drill in practically every school that I have seen in Scotland; physical drill as distinct from the military drill which was so far encouraged in the Code. I forget exactly when the reference to military drill came in, but it must be a long time back. I cannot quite remember seeing much military drill in my first district, which was in the North of Scotland, when I was in Aberdeen for between five and six years; but in the Border district I saw a great deal of it. I have inspected drill in a lot of individual schools and in towns like Hawick and Galashiels. I helped some officers of the Border Rifle Volunteers to adjudicate in competitions in drill amongst the companies from different schools; and I have sometimes had a sort of battalion parade and inspection and march past done with spirit and thoroughness. I may mention that even when I encouraged the military drill solely from my own experience and personal liking, I used to urge the paying of a very great attention to the extension motions, what may be called the physical setting-up part of it, because I feel convinced that, as far as school is concerned, the point in the military drill is what one would call the drill part of it, not the merely military part of it. The military evolution part of it is not of the same importance, I think, educationally as the physical benefit in setting up, and neither of them perhaps of quite as much importance as the disciplinary effect of the drill. That really covers the ground as to what one sees in the ordinary inspected school.

Then, secondly, with regard to the higher class day schools. I never officially inspected any of them until I went to my present district. I have now seen a good many large schools of this kind in Glasgow, and I have found very careful, almost enthusiastic, attention paid in many of them to drill—drill of all kinds. I take them just in the order in which I happened to see them first—Glasgow Kelvinside Academy, Glasgow High School (that is, the High School for boys), the Glasgow High School for girls, and the two Glasgow Hutchisons' Schools, one for boys and one for girls; and in all of these I saw with much pleasure and delight the classes in gymnastics and physical drill, including military drill, company drill. Then in the Kelvinside Academy I was greatly delighted to find—it had been in existence for some few years before I saw it—a very good cadet corps indeed, exceedingly well equipped and turned out in a very bright and taking Highland uniform, and doing very good drill work. Quite recently the High School in Glasgow has started a cadet corps also. I saw it in a sort of elementary stage, I think about its seventh appearance on parade; but about one hundred did remarkably well for the time they had been at it, and there was another squad of about another hundred just waiting to be enrolled and taken in hand when arrangements could be made for instructors. And then I think I have been successful in doing something in connection with the Glasgow Academy. I spoke to the rector about the matter at a previous inspection, and this year they also have started a cadet

corps. They are still waiting, I believe, for the War Office sanction, but they have a corps of a little over one hundred, and it is getting on. Of course they are pretty much in the raw state yet.

1712. *By Sir Henry Craik.*—Do you know to what corps they are affiliated?—I am afraid I could not quite commit myself. Kelvinside, I think, to the Cameronians (Scottish Rifles).

1713. *By Mr Alston.*—Yes, that is so.—And the High School is the 1st Lanark.

1714. Yes, that is so.—And I am not exactly sure to which corps the Academy is attached.

1715. The Glasgow Academy is one of the Volunteer Battalions of the Highland Light Infantry—the 5th or 6th, I forget to which.

1716. Colonel Mackenzie?—Yes, it is his name I heard in connection with it.

1717. And the High School the 1st Lanark Rifles?—Colonel Reid.

Evening and Continuation Classes.—Personally, I have not seen much of the work there. It has not fallen to my lot to see a great many of the evening and Continuation Classes; in fact, that falls more to the lot of the junior officials. I have gone there to see schools which presented a specially advanced curriculum in other subjects; but I know that, under the stimulus given to physical exercises by the previous Evening School Code, work of that sort was taken up—not so much military drill—physical exercise, probably more from the recreative point of view than any other; and the present Continuation Class Code makes specific provision for work of this kind, and it is going on pretty briskly in Glasgow as far as I can gather, a good deal in connection with Boys' Brigades. They fall in under Division IV. of the present Continuation Class Code. I think that practically exhausts the statement of fact with regard to what I know as to what is done.

I thought it might be of interest to the Commissioners to know that quite recently I got a note from the Corporation asking me to co-operate with a committee of theirs to make the best success of a sort of gala day that they propose to have at the Coronation time for older scholars, scholars above the elementary school stage. These elementary school scholars have been provided for for the past year or two under what is called the Glasgow Children's Day in the Parks. They have a sort of gala day, with sports and different prizes, and the different elementary schools are told off to the different public parks, according to the division of the city they are in. But this was an idea started to do something in the way of marking the Coronation time for the scholars above that stage who are not touched by that scheme, and the idea was to get a special park, make a sort of private affair of it for these scholars and their friends; and I think the Corporation thought I might be of use in bringing together, as it were, the Board schools and the purely secondary schools, who might rather stand aloof otherwise. I have been very much encouraged by the hearty way in which the purely secondary and socially higher-class schools—like Kelvinside Academy and the Academy—have taken the matter up, and I think we shall make it a success. The only misfortune is that, this year, owing to the Coronation week, the schools in Glasgow practically break up on the 20th of June instead of a week later, and the 27th is the day mentioned for this schools' gala, so that there may be some difficulty in getting really a good turn-out of the secondary schools, because the Glasgow people are exceedingly ready and anxious to get away to the country as soon as holiday time begins. But I may mention that, just before I came up, I had a note from the rector of the Kelvinside Academy, in which he says he put the matter before his senior scholars, and he expects about fifty of them, although they are out of town, will be able to come back, and are ready to do so, for the purpose of giving a kind of lift to this meeting of ours.

School games occurred to me in connection with their value as physical training. I do not know that there is any physical exercise of more value; and, from the educational point of view, I think we are apt to neglect in our educational arrangements the fact that one of the best things the school can do for a fellow is to teach him how to make a good use of his leisure. I should like to see the children imbued with a liking and respect for all good hearty games. And then, of course, there is the disciplinary point of school games, because in every school where they are properly organised they create a *camaraderie*, and a putting shoulder to shoulder and a give and take, which are of great value from the discipline point of view. I say this merely in passing; I recur to the point in connection with some of my suggestions.

I hope I may be excused for stating frankly that I was a little unable to logically differentiate the heads of the specific references that were sent to me. They seemed to involve a good deal of what you might call cross classification; and looking at this second head—*the extent to which use is made of existing opportunities*—I thought I might deal with that rather by making suggestions as to what might be done to better the way in which the opportunities that do exist are utilised. I have put these under six headings. I was not quite sure what was asked for, but I think the main point is that we want the matter a little better systematised. There are no lines of official guidance as to what the Code means by *adequate* physical training. The word 'adequate' is used in the Code, and there is no sort of definition of that. It is left to the intelligence of the teachers or managers, and then to the personal influence of the inspector to make them realise what is adequate. I know many managers and teachers would welcome some general lines of guidance, and I think the inspectors also would be the better of a power of consultation with some thorough expert who can speak with authority upon the matter. I daresay most of us can learn to know what is respectable in that way from what is not, but I think it gives the subject a greater dignity and place when teachers and managers feel that there is an expert at the back of the whole thing, as in some other matters that I am glad to see the Department are taking up in this way. For example, a subject like cookery. Well, we can learn to know something about it, but a special inspectress has recently been appointed. I got word of this just before I left, and I am very glad of it, because it gives us a backing from an expert. I should like to see needlework, for example, dealt with in the same way. Some of us have learnt in thirty years to know a good deal about it, but you can understand the difference. Much of the physical drill done, especially in small rural schools, is most perfunctory. Much is undoubtedly wrong in system, and sometimes even worse than useless. If it is not frivolous, I think I should best make the Commission understand the point of view of the small rural school by a little story of a personal experience. When I was trying to find out the date at which the clause as to these prizes for physical drill first appeared in the Code, it was recalled to my mind that travelling somewhere on the Clyde—when I was stationed in the Edinburgh side of the country—I heard a curious discussion between two teachers about this very point, this new 'fad' which had been introduced into the Code. They wondered how they were going to manage it—where the time was going to come from, and what they were supposed to know. They were two Highlanders, one a country and one a town teacher evidently. They did not know me; I was smoking forward on the deck. My ears were pricked up first by hearing them discuss personally some of my colleagues in the West whom I knew very well. Then they began about this. To make it short, the country teacher was very much distressed—How was he to get the thing right? What did he know about it? The town teacher was trying to encourage him. They discussed the thing up and down. The town man said, 'You must just do the 'best you can.' The other did not seem to know where that came in. Then an ingenious point was started by the town man—that probably the inspector

Code, 'adequate' physical training: some guidance desirable: expert's help necessary.

Country schools: drill often perfunctory.

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did not know any more about it than the teacher did. That was an element. They discussed it a little further, till a bright idea evidently struck the town man, and he said to his friend, 'I will tell you; your boy John 'plays the fiddle, does he not?' 'Oh, yes, yes.' 'Well, 'I will tell you what, this first time anyhow. You will 'get John to play a tune on the fiddle, and the children 'will just wave their arms in decent time, and it will 'please the inspector very much.' That is what I mean by 'perfunctory.' They get the children stuck up on the school benches, and they 'wave their arms,' and that is about the whole of it with some of them. I would like to see some guidance given; let them understand that something more than that is wanted.

Code: Art. 91 (d) classes: training of teachers.

This leads to my second point. I think that, as in all our work, especially along the lines on which guidance is most needed, everything depends upon the proper training of the teachers—everything; and I am glad to say that we have already for Physical Drill several of what are technically 'Article 91 (d) classes'—classes meant specially for the training of teachers in subjects which they have to teach to children. I saw Captain Armytage, who is to appear before you, at the class at the High School a few weeks before I left, and we were both very much delighted with it: it was thoroughly satisfactory. I should like to point out, in connection

Instruction: should be in hands of ordinary teaching staff.

with the instructor question, that, just as we find in other subjects, it is not the man who technically knows most himself—a military instructor—who is of necessity the best instructor either of teachers or of children. He wants to be trained how to teach, as well as to know his subject thoroughly. I have found some Volunteer drill instructors, who used to be very much employed in that way, splendid men. On the other hand, I have found some of them very unsatisfactory. I am strongly of opinion that, for the success of physical training in the common schools, the right method is that such training should be mainly in the hands of the teaching staff. I am quite clear about that as a principle in all our work in the common school. Where you have to import a special teacher for a special purpose, at some odd special time on the time-table, the subject is not recognised as an integral and an essential part of the curriculum, and it is apt to be looked upon by headmasters as a kind of fad or excrescence or bore; it is not done with thorough spirit as part of the work of the school. The main element, I think, is that we want everything of the kind realised as being part and parcel of the school curriculum, not somebody's addition for some private—what you may call 'faddy'—idea. Then it seemed to me to follow, as I was hinting before, that something in the way of official guidance or inspection by a specially trained expert would be of use, at any rate preliminarily, until we get more system thoroughly introduced,—a kind of man who, with authority, could see to the carrying out of a system officially approved and enjoined. I might say, however, with reference to officially approving and enjoining, that 'enjoining' is perhaps a little stronger than I mean. I am not sure that it would be a healthy thing to

Uniform system not beneficial.

put out officially, a Code, as it were, of physical drill which was not to be departed from in any way—to tie teachers down within rigid limits, either as to amount of time or anything of the sort. That destroys a great deal of the initiative and individuality of the teachers in the schools; and it is very difficult to make any guide of the kind that would fairly meet the varying circumstances of different schools. But I think officially we might do very much with the drill as has been done with subjects of a similar technical kind, like drawing for example—make the school authorities send up a scheme of their drill for approval, and leave them freedom to a good deal of individuality, but yet have somebody watching the thing, to see that there was nothing wrong, and that there was nothing essential omitted. But I am not clear that any good would be done by going back to the old rigid prescribed Code, or standard, or regulation idea.

Here we are doing a great deal in the way of physical training. It is done everywhere; but the whole thing wants to be recognised as more essential and more important in the work of every school; not to be treated as an outside thing, shoved in at somebody's dictation who does not understand school work. The teachers—they are very conservative as a body—are apt to look at anything new of that sort as just a fad, shoved in by some influential person, and I think they need to realise that the physical side of a boy has to be trained thoroughly in every way as much as the moral and the mental. Physical training should be better recognised as an essential and important part of the school work. It should not be, as it often is at present, looked upon merely as one of those almost outside things, or 'fads,' that must (for grant-earning aims only) be stuck on somewhere, and anyhow, in the curriculum. That is to say, a lot of the schools obviously do just the minimum that will save their being come down upon, and their grant being docked. They do not do the thing for its own sake. It should have more time devoted to it than it generally gets now. I have a paper in connection with that, that I will put in, which came to me since I left home. In the large Glasgow schools, the pupils in the junior and senior divisions, that is, above the infant stage—pupils, say, from eight upwards—I am allowing a little margin: the infant school age technically ends at seven, and the junior division is supposed to include from seven to ten, and the senior from ten upwards—well, these children get nominally, as per the time-table, only half an hour of physical training exercises per week; and I find that before they are assembled, fallen in, and dismissed, that is practically reduced to twenty minutes, so each child in those closely-packed schools in Glasgow gets only twenty minutes of this healthy exercise per week. That is by the approved time-table. And further than that, as I pointed out before, generally he gets this from an outsider—maybe an old and somewhat crusty drill-sergeant—who may have little sympathy with children, and who never sees them at any other time than this one short period per week. Even now, however, in the infant divisions—and for a long time back in the infant divisions—matters are very much better. They enter very heartily into the physical exercise for its own sake and for its recreative sake, and it is always there in the hands of the ordinary staff, just part and parcel of their work.

A point to be noted here is that some people will say, 'Well, if you are going to put this on 'to the curriculum, where is the time to come from? 'You must give up other things.' Should it in consequence be necessary to let progress in some of the other branches of the curriculum be slower than has hitherto been the case, I see no objection to this. Indeed, I am persuaded that hitherto no little harm has been done by concentrating teaching effort upon the earliest possible 'passing' of certain prescribed standards in exclusively intellectual (or book) attainments, to the detriment of the natural all-round development of the child, and to the fostering—especially given to 'ordinary' teachers and the very class of pupils whom we have most need to *educate* by our elementary schools: I am speaking perhaps more of the poor slums schools in a big city like Glasgow—of a type of 'cram'-work, swallowed with mere dumb stolidity, if not with actual distaste, never assimilated, and rejected or thankfully forgotten at the earliest opportunity. Well, what I wish to draw from that is this, if we go a little slower, especially now that we are to have the children till they are fourteen, and do not try to do more, as it were, *beyond* our present curriculum, but rather concentrate upon seeing that the children have a thorough and intelligent grasp of what is included in the present curriculum, we shall do very well; and in that case I see room—quite room—for a good deal more attention to physical training. We have practically before us, under the new Act regulations, two years of school life that we did not have before. The majority of the children in a place like Glasgow

left school absolutely when they were about twelve, —the great majority of them made an exodus from the school at the period of the old fifth standard. Now we are compelling them all to stay till fourteen, and I would rather see the curriculum widened, and the whole type of instruction changed, to be more stimulating and probably more permanent and fruitful to the child, than try and teach them *more*, as it were—either further subjects or a wider amount of any given subject; and so, I think, there would be plenty of time for a good deal more time spent upon physical training. There has been too much neglect in our common-school education of the *physical* side of the child's nature—taking 'physical' in its widest sense—as an inevitably important factor towards a healthy, useful, rational—and why not *happy*?—adult life. I think there has been a tendency hitherto to neglect what we call hand and eye training and the use of the physical powers and senses, all for the sake of getting the children up to a certain pass line in reading, writing, and arithmetic, and some other subjects.

I return at last to the importance of organising school games. The important use of *organised school games* seems to me to be insufficiently recognised in the elementary school. While physical training is undoubtedly of most importance for the children of the unwholesome congested areas of our large towns, my experience is that in the matter of school games it is the children in rural districts that need most guidance and encouragement. It has often seemed strange, and even pathetic, to me that in so many small country schools the children—I refer more especially to the boys—seemed to have no occupation for their play 'interval' except to stand with their backs to the wall and their hands in their pockets. In large schools, of course, the mere numbers help to more life in the playground. On the training, both physical and otherwise, to be got from good games it is needless to enlarge. In my experience teachers can do much for their pupils by kindly and judicious encouragement here, and I should be glad if that could be put before them even more strongly than it has been done in official documents. In my former district I had much pleasure in taking a personal interest in the inter-school football contests so successfully and beneficially started and carried on by the Leith teachers among the boys of their schools. As far as my observation went, the results of this movement were in every way good. I am here reminded that *swimming* was also an important feature in the physical training of the Leith children. As a healthy exercise it stands in the very front rank, and I think that everything possible should be done to encourage it among the pupils of our schools, not to speak of the advantage to any man and woman of being able to swim.

In connection with this schools' gala day in Glasgow, I saw the rector of the Glasgow Academy just before I left home, and perhaps I might be allowed to mention something upon which he laid considerable stress—in regard to school cadet corps. I should be very glad indeed to see cadet corps encouraged in connection with every school that keeps children beyond fourteen years of age, at any rate; but there is an undoubted difficulty in the way of expense, and more particularly as regards uniform. I think if we take up the cadet corps idea systematically, there is a case here for prescribing by definite '*regulation*' some useful cheap uniform. I do not think it is wise or of much value to have the cadet corps of schools imitating full regimental uniform. It is all very pretty, but I speak with some personal experience. It is an expensive matter for the unfortunate parent to pay £3 or £3, 10s. for the turn-out of a small boy, for whom the uniform is of no use about eighteen months afterwards, because he has outgrown it. Of course, they do try some scheme of passing on the uniforms, but no boy likes to have a secondhand uniform when he can have the glory of a new one. And I sympathise with Mr Temple, the rector of the Academy, who takes a keen interest in athletics and sport too, in thinking that there should be a prescription of some regulation uniform for boys' cadet corps, with perhaps some variation in the facings, or something of that sort, for distinction. What he suggested was a sort of loose jacket, knickerbockers, and a useful cap. The cadet corps of one of the schools in Glasgow has turned out in a full imitation of the service kharki uniform in South Africa, with a big slouch hat; and to see these little, wee bairns going about in these putties and great big slouch hats is very absurd—a little dot about that height (*indicating*)—I think it is rather derogatory to the dignity of the regulation uniform.

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Just before I finish I might put in this letter, and paper along with it, which I received from the clerk of the Glasgow School Board in reply to my queries as to the teaching of drill—with reference to the time allowed for the drill, and the system of instruction; whether it was done by the class teachers or by outside instructors. The teachers in several cases carry it on during the week, with the expert instructor as organising and directing officer. Then the analysis of the time is that in the infant departments the time devoted to drill each week—drill and other physical exercises—varies from thirty to one hundred minutes. In the junior and senior divisions—that is, as I explained before, from the age of seven to say about fourteen—it varies from thirty to sixty minutes; and certainly my own experience is that the thirty minutes is the more common entry on the time-table. In the higher grade departments, where they keep children after they have gained the merit certificate, it varies from thirty to forty-five minutes. And so, I think, one might very safely say that from thirty to forty minutes a week is the average in Glasgow schools.—I shall be very glad indeed to answer any questions and to tell you anything I can.

Drill: amount of time given under Glasgow School Board.

1718. *By the Hon. Thomas Cochrane.*—I am sure you have given us a very full and excellent statement. I do not know that there is anything very particular that I would like to ask you about it. I suppose your experience has been more with boys of the school age up to fourteen?—Up to fourteen; yes.

Physical training very beneficial for boys and girls.

1719. And you have found very great benefit from the physical training they have had under your inspection?—Undoubtedly. I think the teachers, who fought very shy of it at first, soon began to see the advantage—the disciplinary advantage to school life, outside the mere physical setting up.

1720. It makes them better scholars?—Yes; it gives them a better tone altogether, and especially it affects school discipline very much. The habit of acting promptly on a given word of command saves a great deal of slovenly talking.

1721. That applies to the girls as well as to boys?—I might mention that from the very first—in my Border district, and all through—I have insisted that the term 'physical exercise' applied to the girls as well as the boys. They must provide for the girls as well. There is even more need in their case.

1722. They like the physical exercise, the girls, do they?—Oh, yes; they do. I have seen some of the schools where they have been very proud of being able to 'show off' as it were.

1723. Marching?—Very beautifully and vigorously and gracefully done.

1724. Would you make any difference between the drill—I will not call it drill: physical exercises—you give to the girls and the boys up to fourteen?—No, I think not much, except that the older girls of course require very careful watching. In fact, I should mention that as a corollary to pushing attention to physical exercise we should almost need some medical supervision, I think.

Medical supervision desirable.

1725. So as to determine who were the more delicate children?—Yes; to make sure no harm was done by overstraining delicate children. Of course, in the slum schools in Glasgow there are very many children who are neither fed nor physically fit for anything more than a mere minimum just worked up very gradually. These are the poor creatures to whom the physical training is of most value.

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1726. You perhaps would like to couple the physical training with some scheme of feeding the more delicate ones?—That is leading me farther than I should care to go; but I should like to have some medical supervision—some recognised medical officer in connection with a given group of schools, who could be appealed to and consulted, and who would be responsible for no harm being done in that way,—some authority in that way. I might mention that I have spoken of the slum children in big towns. For country children I think the great elements are the disciplinary and the setting-up elements, not so much the physical exercise, because these country children walk miles to school, and they are out in the open air, and they get a great deal of physical exercise in many ways; but they are not smart, and the disciplinary effect in the country schools is very marvellous where the clodhopper kind of chaps learn to act smartly.

Country children require discipline and smartening.

1727. It gives them a certain amount of physical and mental alacrity?—Certainly.

1728. It wakes them up?—It undoubtedly affects the mind as well as the body.

1729. Your opinion is that it has had an advantage on the health of the children generally?—Oh, undoubtedly.

1730. You have not got any facts or statistics of any kind which bear upon it?—I had no time to get anything of that sort.

1731. Are there any available; have any measurements been taken of the children?—I should doubt it. Possibly a school or two, where I remember the teacher as an enthusiast, may have done that sort of thing, but certainly there has been no system.

1732. It would be very interesting if we could have some figures?—Oh, very.

1733. But do you think a consensus of the opinion of the teachers would all be in favour of physical exercise?—I think that all the teachers whose opinion would be worth paying any attention to would be in favour of it. There is always a certain type of them who would object to anything.

1734. To any change?—Yes.

Compulsion for lads fourteen to eighteen: recent extension of school age may solve difficulty, by benefits being more appreciated.

1735. Now, I should just like to lead you from that up to fourteen. You have every experience of what has taken place, and do you think that if that were extended to the ages of fourteen to eighteen, there would still be an advantage to the pupil of some system of physical exercise?—You mean compulsorily extended?

1736. Yes, compulsorily. Is it feasible, from your point of view, a compulsory system of physical exercise after fourteen?—Well, personally, I should be quite in favour of that being attained openly, by legislative act. I should like some means of insisting upon it for youngsters at that stage. But, educationally—well, it is rather beyond the limits of our educational administration, and I cannot commit myself as to how it should be done in that way. Educationally, the feeling that I have is, that I should like this subject taught, like every other subject, so as to give the child a liking for it and actual pleasure in functional exercise, be it of mental function or of physical function. I should like the children to leave school with a thorough respect for and liking for all that active physical exercise; and, as far as educational administration goes, I should like everything done to encourage them to keep it up; but when it comes to a question of legislative compulsion, that is outside of my considerations. In fact, I have not looked at the matter in that light.

1737. I was not quite leading on to compulsion, but I would like to ask your opinion about that, as to whether you think there would be an objection on the part of the parents to, say, an hour a week, or something of that sort—to three half hours a week?—I should think not; not if it is honestly and squarely put before them. But I think a Scotch parent would object, if I may put it so, to being hoodwinked into anything of this sort.

1738. If he thought he was being convinced against his will?—Yes, by a kind of side-wind; but, from the interest I have seen parents take in the physical displays and these drill exercises and the games we had in Leith, for example, I should think they would appreciate it if it were fostered through stimulus and encouragement.

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1739. Would compulsion be necessary if these classes in physical exercises were made sufficiently interesting? Would a very large number of the young men, fellows between fourteen and eighteen, be willing to avail themselves of it?—I am afraid that is rather in the realm of prophecy.

1740. Do they go out readily to these gymnasia?—Certain of them do; but one cannot say, for example, in a place like Glasgow, with the denser and poorer parts of the population, that there would be any keen desire, in the meantime, on the part of the youngsters themselves. I think that might grow, as I was saying, if we made more of it at the lower stages, and made them appreciate the benefit of it, and especially if, in a place like Glasgow, a more systematised use were made of playgrounds and open spaces for the purpose. I think that is what towns like Glasgow should face—forming organised clubs for physical exercise and physical training.

1741. You think something might be done, but you would not get at the whole of the young population without some system of compelling them to attend?—I am afraid not; and, naturally, the dregs, who would remain outside the voluntary system would be the very ones you would most like to get hold of. This is always the case as to compulsory education work.

1742. You would like to catch up the Hooligans?—Yes, I think that is an element that is of very serious importance. I think the extension of our school age should do a great deal to do that, if we make the two new years interesting and fruitful. I am perfectly certain—I speak from personal experience of places like Hawick and Galashiels—that a great deal of the Hooliganism was due to the children's breaking away from school at an early immature age—leaving a couple of years or so before they could go to work. They simply got out of hand altogether.

Hooligi

1743. You would like to find them some beneficial occupation for their surplus energy?—Most certainly.

1744. You think that might work off their high spirits—some form of physical exercise?—Yes.

1745. *By Sir Thomas Coats.*—You talked of the average time devoted to this drill at present as something like half an hour per week, or practically twenty minutes?—That is a very common time, I find, in the Glasgow schools.

Drill: able to half a per da

1746. What time would you advise should be devoted to it?—Well, that is a little difficult. My own feeling would be that every child should get it for, say, half an hour every day. I think that there is much more value in the repetition of such exercise pretty frequently than in continuing it too long at a time at infrequent intervals.

1747. How would you divide that half hour?—It might be taken in two portions, or it might all be taken in one. I do not think half an hour is too long, if the drill is judicious, for a child. I should not like to keep a child under that kind of exercise for more than the half hour certainly, and even then he would need rests. Might I mention, in connection with that, that I have seen in one or two of the Glasgow schools what seems to me a very good idea, and a very good conception of the kind of use of physical drill? At the inspection of one large school, just as I was shifting from one class to another, a loud stroke on the school gong sounded, all the classroom doors and windows were thrown open, and for ten minutes, to the leading of a piano played in the school hall, the children in every class went through physical exercises. I commended the teachers very heartily for that. I thought it was a most excellent utilisation of the physical drill for its right purposes. That was one of the schools where the teachers had trained themselves to take charge of the work in that way.

1748. Then you think that if physical drill were made a very special subject or taken up as part of the

school work, half an hour a day would be sufficient for that work to develop the children properly?—I think if they got half an hour a day, it would make a very great difference and do a great deal of good. Of course it is very easy at much less than half an hour a day to make children do their drill well enough to make an admirable appearance at a given inspection; but then that is not utilising drill for its real purpose. We do not want the drill taught for a show inspection business—we want it taught for the benefit of the children; and unless it is repeated as often as I say, or nearly so, I do not think they get the good that they should from it.

1749. You think that time could be quite well spared with the additional year or two years?—In fact, I think the benefits accruing from it would make it pay for itself, as it were; I mean the additional life and spirit put into the other work would repay the teachers for giving up that time. It would have the same effect as the introduction of a good many things which have been objected to on the score of time: where they have been taken up, I think the teachers find this has brightened and intensified the other work to such an extent that there is no loss of time in the end.

1750. You said something about cadet corps in schools—have they any tendency to specialize the physical training, that is to say, that a certain number of the scholars are trained specially, to the disadvantage of the general run of scholars in the school?—I think not, from the schools that I have seen, because they have systematic gymnastic training. I find that both in the Academy and in Kelvinside Academy, for example, systematic gymnastic training is given to every boy in the lower forms up to say the third form. After that the gymnastics are voluntary, and then of course the military training in the cadet corps is given only to those who enrol. I do not see why it should have any evil effect in that way. I think it is a sort of voluntary coping-stone, that would rather stimulate interest in the whole of the physical work.

1751. Then, in regard to the medical supervision which you recommend, would you have the children examined at the beginning of each term, or how?—I cannot help thinking it would be a very good thing to have children medically examined periodically. At the beginning of each term would be a very good time, except that we cannot get our elementary teachers to understand what a school 'term' is, I am sorry to say, yet. They have been so habituated to grinding from one year's end to another, from inspection to inspection, for a particular required standard, that they do not quite understand the term system yet. I think the natural terms would be three terms a year, say, at the beginning of the session, about the Christmas break, and then about the Easter break. Such examination is a matter more for experts in that line to speak of, but I cannot help thinking it would be a very useful thing to introduce into our schools.

1752. Would it be practicable to have a record of the size and weight of the children in the school, and to keep track of that, to see whether they are advancing physically?—I think the thing would be of no use without a record. Of course it follows necessarily that there should be a school record in that way.

1753. So that you would find out whether, for want of food or for other reasons, the child was going back?—Yes, that is one of the main elements. Of course it would be useless unless the facts were carefully recorded each time.

1754. Could you take advantage of that, supposing you found that a child was not being properly fed, and not fit to go through much physical training. Could you bring pressure to bear on the parents, by advice or otherwise?—That is a matter which we, officially, would have to hand over to the managers—the School Board or the Managers of the school; and I know that they do have that before them in the meantime, as regards food, at least, and clothing. There is a great deal done in Glasgow, not directly through the School Board, but with their co-operation, and in the way of helping them, by charitable organisations of different kinds. Food and clothing are provided for children who are in absolute need. And I have known, even, several cases where the teachers—to their credit be it said—have given starving scholars a penny or a half-penny to go and get a bite of bread. I have seen children, over and over again, who have come to school without having tasted food that day.

1755. But do you think any influence could be brought to bear upon the parent? That is, of course, doing it more as a charity, giving it in that way?—I fear that is just one of these questions that raises a wide sort of administrative problem, that is not exactly in my line. I should be glad to see something done for these children. I did all I could in my rural districts before to get a sort of midday dinner plan established, which was found to be a most useful thing. It was under voluntary management, and the children got, at a very cheap rate, a basin of soup and a good piece of bread in the middle of the day, instead of waiting about, wet and tired, and getting really nothing. It had a capital effect upon the afternoon's work in the country schools.

Games.

1756. Then you spoke about the value of games; that they ought to be organised, the teaching of games; would that be done by the school teacher or by specialists?—One is always shy of meddling there. That is a matter to be dealt with, with great tact, by teachers; but I should like the teachers to realize more that it is for them a field of usefulness and of good influence upon the children morally and physically. But I do not want them to meddle or interfere. Of course the older the children, the more they should be left to work out their own games.

1757. But you would teach them to play these games according to those recognised rules?—Yes. I have had some fun starting the children to prisoner's base, when I had plenty of time, waiting in the country, just to give them a kind of impulse to start something for themselves instead of loafing about or sitting up on a paling with their hands in their pockets. The girls are more inventive; they have their own special games; they do more in that way than the boys in the country districts. But the average juvenile 'hind,' in places like Berwickshire or Roxburghshire, when he has nothing to do, has a great faculty for doing absolutely nothing. As far as I can see, he justs sits upon a paling, or leans with his back against the wall. He is more like a vegetable: he seems to have no mental or physical spring in him at all.

1758. We have had some evidence of the desirability of teaching or giving to country children this regular physical training, properly taught; that the ordinary exercise they get by walking to school, or the out-door work they have, does not properly develop all the muscles but only certain muscles, and the evidence we have had from other witnesses shows that it is just as necessary to give them physical training as the others. Is that your experience?—Oh, I think so. As I pointed out, it is more necessary for them from the disciplinary side. They are less nimble and active mentally and physically; and that is where I think it is of great importance for the country children—just to stir them out of that vegetative existence they are so apt to lead.

Playgrounds: quite feasible for Boards to secure a recreation ground common to several schools.

1759. *By Sir Henry Craik.*—Do you know if in Glasgow the School Boards have obtained any playground of a size sufficient for games?—I do not know that they have actually annexed, as it were, anything of the sort. There are some very good playgrounds, quite big enough for a good deal of drill, and a good deal of running-about exercise.

1760. Not for a game of football or cricket?—Oh, yes; I have seen football played in its own way. Most of the playgrounds in Glasgow are asphalted or concreted, for the sake of cleanliness, but I have seen the boys playing football there with great energy.

1761. But is there a field in connection with the High School?—Yes, with the High School.

1762. The Higher Class School?—Yes.

1763. But for the elementary schools, they have never attempted to get hold of any field which they might

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use for the play of the children in these schools?—No, not that I know of, except in connection with the children's gala day in the parks. They get from the Corporation the use of all the parks, and then there is an arrangement for systematised children's school games on that particular day.

1764. As an act of grace, and occasionally; of course it would be considered to be an interference with the general use of the parks if it were done frequently?—Yes. I think, sir, what you seem to be suggesting would be admirable. If a Board like Glasgow would secure a recreation ground, to be used in turn by these schools, I think it would be a splendid thing.

1765. And the Department would not refuse sanction to a loan for that purpose?—I am very glad to hear it. I must get them poked up.

1766. The other question is a more important one, which to you and me must bulk very largely, looking back upon the many years in which we have been engaged in this work. You have seen a good deal now, both of higher class and of elementary schools?—Yes, I have.

Higher and elementary schools compared: lately improvements in latter.

1767. Now, how would you say that these higher schools turned out their scholars equipped for life as compared with our ordinary elementary schools under the Code?—Well, what I have to say would be very much to repeat what I have said before: that, unfortunately, the turn-out every year from the elementary schools has been absolutely premature.

1768. That is the first point?—Absolutely premature.

1769. They left at ten or eleven years of age?—Or a little above that.

1770. The Act of last year gives School Boards power of very largely improving the elementary schools in that respect?—Yes; undoubtedly.

1771. Then would you not say that there was in the education of these elementary schools, in spite of anything we might do to counteract it, a necessarily somewhat wooden curriculum as the inheritance of the system of standards and of individual passes?—That is what I practically did say, pretty strongly. I think that has been the bane of the whole system hitherto. Of course, as you are aware, under the recent change of Code, matters are improving steadily in the other direction.

1772. Well, that is a second point from which perhaps the great mass of children suffered, as compared with a few privileged children in the better class schools, and that point we have to a large extent counteracted by the changes in the Code?—I think so.

1773. There is now much greater freedom and elasticity in the work of the schools?—And also a potent change for the better in the abolishing of the old labour exemption standard examination.

1774. Now, in two respects, we have brought these elementary schools nearer to the higher schools, first by extending the age to which a lad attended; and secondly, making the instruction more elastic and free?—Yes.

1775. Now, I suppose you would agree with me, that the hard and fast passes that had to be made, and the rigid curriculum that had to be followed, did tend to narrow the opportunities for the physical training of the children?—Oh, undoubtedly. They absorbed the whole ideas and energies of the teachers and the children.

1776. And the consequence was that there was a marked contrast in the physical training of the higher class pupils from that of the ordinary elementary scholar?—Of course not solely in consequence of that, but that was a very strong contributory cause. Of course one must remember the different social condition and environment of the higher class children.

Definition of term 'higher class' school, classification.

1777. *By the Chairman.*—I should like a little exemplification of what is meant by higher class. What class?—Well, I should say schools that are meant for the children of professional people, the higher middle class, as contrasted with the schools under the Code, meant more especially for the children of the working class and lower strata of the population: schools, for example, like the Glasgow Academy, the Kelvinside Academy, the Edinburgh Academy, George Watson's College, etc.,—schools marked out by a social differentiation. In nearly all these schools the children pay very considerable fees.

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1778. Would you go so far as to call them public schools or not?—That is a somewhat technical term.

1779. *By Sir Henry Craik.*—Public school has a technical meaning in Scotland quite distinct?—They are nearer the analogy to the English public schools than anything else.

1780. *By the Chairman.*—Grammar schools?—Yes; and some of them are on the same footing, so far, as the English public schools: take a school like Fettes.

1781. I want to imagine myself quite ignorant?—Fettes College, or Glenalmond, or Merchiston—schools where they make provision for boarders, the masters keep houses for boarders: these are the nearest analogy to the English public school that we can give.

1782. And not in the same class as those that you were talking about quite?—They are differentiated only by the fact that they have some boarding establishments in connection with them. Those other schools that I am speaking of are day schools, doing practically the same level of work as these advanced schools.

1783. But are they doing the same level of play?—Oh, I think so. Take a school like the Edinburgh Academy or the Glasgow Academy: they devote a great deal of time to cricket and football; they have their own field; the boys must turn out for games.

1784. *By Sir Henry Craik.*—I quite agree with your classification of these schools. We have in the elementary school, it is quite plain, a large leeway to make up in regard to the physical training, if we are to bring them to anything like the level of the opportunities which are open to the boys of the better class?—If one views the question as having regard to school games and that sort of thing, they have nothing like the same opportunities for games,—no fields, no regular system of play—no games in that way; but I should think that as far as the mere physical training exercises inside the school are concerned, the elementary schools are fully up to the others.

1785. Of late years?—Yes; perhaps the thing is more thoroughly systematised there than in the better class school.

1786. Yes, but only of late years?—Especially since 1895; since that matter was put in the Code.

Physical exercises drill: no objection parents.

1787. Have you found any objection amongst parents to their children taking part in these physical exercises or military drill?—Not personally, except that I remember a case, which, probably, you may have seen or heard of, where the matter was taken to the law courts. The parent objected to send the child to school because they insisted on giving her physical drill, and he was prosecuted for not keeping his child at school, but lost the case. The Sheriff very sensibly decided the case against him. That occurred in Scotland not very long ago.

1788. I may mention, in regard to that case, that the parent had previously objected to another child doing the ordinary school work?—I see.

1789. So that probably there was some twist on the part of the parent—objection to the teacher, or something or other; it was not a conscientious objection?—No, no. Might I mention something you suggested to me in connection with the curriculum, and the further broadening of things in our elementary schools nowadays? We have in the Code, linked on to the Elementary stage, the Higher Grade stage, which is practically a stage in what, to all intents and purposes, is one of the elementary schools, but one that carries on a curriculum in higher subjects—university and scientific subjects—quite equal to that, say, of the English public schools. I should say the best work in classics and mathematics in Glasgow is done in one of these schools, not in one of the purely secondary schools.

Higher g schools:

1790. But still it is probable that in such a school there are not the opportunities for physical training

that there would be in a school for better class children?—I should very much like to see all these schools, if it were possible, obliged to have a field, a recreation ground. In Glasgow they might at least have one common to these higher grade schools.

1791. Boys attending these higher grade schools would go on to the age of sixteen and seventeen?—Sixteen, seventeen, and eighteen, I have seen them; and these are the very fellows we want to get bracketed with the secondary schools, such as the Academy and Kelvinside, for this gala day for older scholars: that is the notion.

1792. And a very good notion; but at present they have not the opportunity for games in any organized way?—No; they have to go to some of the public parks, where anybody can go.

1793. I asked you about an objection amongst parents: have you heard amongst people who are engaged in education any doubt expressed as to the efficacy of physical instruction?—None whatever, that I remember; no.

1794. You have never found that any people took up the other side, and said that much time might be wasted?—I do not think I have. I am afraid I should not have paid much attention to that. I have heard objection to the playing at soldiers, as they call it—the military drill, pure and simple.

1795. If carried too far?—I have heard most extraordinary objections to it. I have even heard of objections to the singing of secular songs at ordinary schools. This was at Cockenzie, where some of the people are of very peculiar religious views. These parents objected utterly to the children being taught secular songs in school.

1796. And, of course, you have heard objections, we have at the Department, to dancing forming part of the instruction in schools?—Yes. I should like to have spoken on dancing.

1797. For girls it is a very good form of exercise?—Oh, very good—and also for the boys. I have seen it done in the infants' schools, and in the bigger ones' too; I think it is a pity it is not carried further.

1798. I think you will probably agree with me that the Department was fully justified in not paying much attention to such objection?—I think so, decidedly.

1798a. *By Mr Shaw Stewart.*—You mentioned that you have often seen children who had not tasted food at all in the morning coming to school?—That is to say, I have been told by the teachers, who ought to know; I could not answer for it myself.

1799. I only want to know where that was most prevalent?—In certain poor schools in Leith: in towns—in the large towns—not in the country, I should say, as a rule.

1800. I suppose in the country that would be unknown?—Unknown; in fact in the country one of the great drawbacks was that when sent off from home in the morning with what they call 'a piece,' you know, the little rascals used to make a habit of eating their pieces on the way to school, and so they had nothing left for the rest of the day; they simply got rid of the piece in that way.

1801. Then, with regard to the system of physical training in schools, you said you thought any code of physical training should not be too rigid?—Yes, I do think so.

1802. That there should be liberty to the teachers to vary it as they thought fit?—I think so.

1803. But I suppose you would be in favour of a code, if it were drawn up, being most carefully drawn up?—Most certainly.

1804. And the limits of variation carefully defined?—I think so, if you leave sufficient room, as it were, for variation. That is the element I want to get at. I have seen so many so-called systems which all practically come to much the same thing—except where you have this just 'waving of the arms,' you know.

1805. Yes, but do you not think there would be more likelihood of teachers diverging from even a very strict system than of their adhering too closely to any system?—I am afraid not, from my experience. I am afraid if you laid down a strict system, the heart and soul of the teacher would be eaten up into toeing that line in every detail, and on no account, especially, doing anything towards carrying out any further development of it that he found his children might be fit for. That is the great danger of drawing these fast lines, which will not be elastic in actual practice. My own feeling would be strongly in favour of dealing with these systems on the analogy of our dealing with drawing, and that sort of thing. Make the school submit its own system in detail, and have that criticised in the office under the guidance of expert advice; sanction the system in the school, as it were, and not impose a universal system upon all. It comes pretty much to the same thing if it is well watched, but I think the moral and educational impulse given is in the one way very much more valuable than in the other.

1806. But, at any rate, would you be in favour of the standard—to which these subsidiary systems should be referred—being very carefully drawn up and directed by the best expert advice?—Yes, I think so, decidedly.

Inspection: school inspector should accompany trained expert.

1807. One question on the inspection by the trained experts, on which you laid some stress. Do you think the trained expert should accompany the school inspector?—I would rather put it the other way about, that where it is possible, the school inspector, for his own benefit, should accompany the trained inspector. I mean, I want them to help and strengthen us—not to do so much the regular everyday inspection of this work, which would come to us. We want to be informed and kept fresh in a technical subject like that ourselves. I think any sensible inspector would gladly welcome the help of a man like Captain Armytage, whom I met the other day, simply because he knows more about it.

Uniform system necessary for guidance; but some liberty must be allowed.

1808. *By Mr Alston.*—Mr Shaw Stewart has just mentioned an important point, which I thought of asking you about, namely, your objection to the hard and fast system of physical training exercises, but would it not be the case that the medical profession alone can tell the exact exercises that are necessary to produce certain effects upon the human frame, and that these can be laid down on hard and fast lines, from which there ought to be no departure?—Yes.

1809. Therefore you put in the text-book these physical exercises, laid down, so far, on hard and fast lines?—Yes, if you left a good deal of room for selection and variation within healthy limits: because you must recognise the difference between individual teachers, their capacity for taking up and managing the thing; you must face the thing as it stands; and then you must recognise the great difference between schools, the material that has to be dealt with. I do not think you can possibly teach exactly the same course in every detail and in every fulness in certain schools which you could teach in others.

1810. If you had the text-book, you would still advocate a selection of the exercise?—Yes. I should quite like to see a text-book of that sort, a text-book that put forth a good recognized course, for guidance and selection from.

1811. That is what I mean—laid down by a competent authority?—So long, again, as you allow the text-book room to grow as we grow in knowledge and experience in the matter—even suppose it is an official text-book, it should be quite open to revision and improvement.

1812. By whom?—By the authors of it, the official authors of it, on the advice of experts, as we gain more experience. I do not think they have exhausted all the information on the subject that is possible now.

1813. The opinion of medical advisers, that is to say, competent authorities, who could construct such a text-book. I fancy they know now, and will not know any better, what is the proper exercise for the muscle of the arm, or the wrist, or the spine, or the muscles of the back or the legs. These must be laid down once and for all; you cannot improve upon it by new information and new discovery; but you may select a series of movements for the exercise of these muscles and joints, and I understand you would like the teachers to have the

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power of selecting what they think most suitable for their class, according to the age of the girl or boy?—I should like it impressed on the teachers, and even upon the scholars, that one of the essential points of getting good results from physical exercise is that they shall know exactly what they want to be at. I think the teacher, and even the scholar, should know exactly what he means to do, what part of him, or even what muscle, he means to affect by a given exercise, because, unless he puts the will into it, it becomes a mechanical pulling of strings.

Teachers the proper instructors, if properly trained.

1814. You are quite clear that the teachers in the school are competent to undertake this?—Oh, quite competent.

1815. And you are also satisfied that the physical drill should be largely improved and enforced in the school curriculum?—Yes, quite.

1816. Without any danger?—Without any danger.

1817. Of adding to the labours of the teacher, or of the children?—I do not think so. As regards the competency of the teacher, I am not prepared to say that all existing teachers in the schools are at present competent, or could be made competent even; but the teachers, under a system, could be trained.

1818. And you would much prefer that, to the bringing in of the outside expert?—Oh, certainly, for the actual instruction of the children.

1819. But you would like the opinion of the expert at stated periods as to how the children are doing their work?—Yes; I think, for the information of the Department afterwards, and the country generally, there ought to be some man watching the whole thing, to see how it is working out.

Definition of terms.

1820. The term 'drill' has been frequently used before the Commission, perhaps a little confusedly; it has not been understood what drill meant when an inspector has used the word. Do you distinguish between the physical exercises and gymnastics, and drill?—I should prefer to use 'physical training' as the comprehensive term.

1821. And you would include drill?—I should include gymnastics and drill (meaning *military drill*) as specialized kinds of it, though almost beyond the stage of the ordinary school.

1822. And you would say applied gymnastics involved apparatus?—By 'gymnastics' I mean exercises needing special appliances or apparatus; by 'drill,' technical military drill.

1823. Do you define drill, as military drill?—Well, I think the two words ought to be used together; we ought to say *military drill*. 'Drill' is sometimes used as a technical term with us, meaning *school drill*, without reference to physical training at all. It is drill in class movements and arrangements—the shifting of classes, assembling and dismissing school, and things of that sort.

1824. Then does the disciplinary effect result from physical training, or only from the military drill?—Oh, from any of them; because the essence of drill—without specifying any particular form of it—is the same all through—the quickening and the smartening, and the concentration of attention, the promptness to move on the word of command, and the setting-up. In military drill, as far as school is concerned, the essential part of it, to me, is the *drill*, not the *military* side.

1825. You get these results from that?—I think that from any good system of drill, whether exactly on military lines or not, you could get it.

Cadet corps: simple dress desirable.

1826. Then about cadet corps. These cadet corps are to be found, I suppose, in the better class of schools, such as the Glasgow and Kelvinside Academies?—Yes. One I mentioned—Hillhead High School—occupies a sort of intermediate line. Knowing Glasgow, you will understand.

1827. Is that under the Govan School Board?—It was originally a Board School. It has now assumed to itself the name of a High School. It is still managed by the Board, and is not quite of the same social status as the Glasgow Academy, for instance.

1828. Do you see your way to introduce cadet corps in connection with Board Schools?—Yes, in schools like 'Whitehill' or 'Kent Road' or 'Woodside,' with higher grade departments where you have children above the merit certificate stage to the number of some 200 or 300.

1829. In the cadet corps, of course, you are entirely with military drill then?—Yes; but the setting-up drill and extension motions and that kind of thing are, physically, the best features of the military drill.

1830. But you have the officers and non-commissioned officers in the cadet corps?—It gives a sort of higher finishing drill.

1831. Is it not more allied to the Volunteers than to the Board School?—You mean the cadet corps?

1831a. The interest lies with the Volunteer corps to get up a cadet corps in connection with a higher class of school?—I think the impulse came from the other end; it was the schools that wanted it.

1832. When the Volunteer movement began?—Oh, yes; but as far as I know the Volunteer officers do not work any propaganda in the way of stimulating the formation of cadet corps.

1833. They had a little competition over getting the Glasgow Academy?—Indeed; perhaps you are further 'ben' in that way than I am.

1834. In the cadet corps you would like to see a much simpler uniform?—Decidedly, a common-sense boy's dress.

1835. After school age have you anything to suggest how physical exercises or drill, military or otherwise, could be carried on, particularly amongst boys in connection with Continuation Classes?—I should like to see every encouragement given to the thing practically; but that is not an aspect of the matter that I have ever faced, and I have not had time to think over it in this connection.

1836. The encouragement would require to be sufficient to induce the boy to sacrifice evening hours two or three times a week. I do not think the boy consults his parents on this matter at all. It is his own liking, and you would require to tempt him to come?—I should like to see him tempted by a healthy appreciation of the value of it rather than by any money temptation—anything of that sort. I should like to see employers, for example, giving every facility for youngsters' having the opportunity.

1837. It might be for the School Board to tempt by grants to those who get the boys together in Continuation Classes?—That is introducing an element that I do not like in the matter.

1838. But you would still advocate that after school age the boys should get further inducement?—I should, as a citizen—not looking at it from an official educational point of view; but I would go heartily with any national legislation that would insist upon that.

1839. *By Mr Fergusson.*—With regard to this term military drill, when you say 'military drill' you only mean the sort of drill which is taught to soldiers?—Yes, the Red Book drill, 'Company and Battalion.'

1840. That is the official term; one finds it over and over again 'military drill,' but you mentioned that you had met with an idea among some people, that when military drill was talked of, one was seeking to turn boys into soldiers?—There is a certain type of parent who takes up that attitude.

1841. Do you not think that it would be far better to drop the term 'military drill' altogether and just say physical exercise, which covers the whole work?—That is my own impression—that the thing may be solved by dropping the term '*military* drill.' Let it be military if you like, but not necessarily.

1842. Then as to the work in continuation schools. I think you said that your junior inspectors were more conversant with that?—Yes; they have seen most of the work of that kind, actually.

1843. Is there any one you would name who would be able to give us useful information?—I think my sub-inspector, Mr M'Leod, would be one who could speak to it.

1844. May I ask who your sub-inspectors are?—Mr M'Leod and Mr Calder are, technically, 'Subs.'

1845. Do you think we should learn anything we have not heard?—I do not think so; really, I do not think so.

1846. As to games, which you advocated as teaching boys to make a good use of their leisure. When you come to think of it, is it not rather more difficult to find any place for the children to play in the country than it is in the towns. In the towns there are a certain number of parks and vacant spaces. In the country is there anywhere for children to play?—I think in many places they have unlimited scope.

1847. Have they?—One Highland teacher said to me, when I was insisting on some such requirement, 'They have all the way from here to the North Pole.'

1848. Think of the Lowlands; have they anywhere except the public road?—Nearly all the schools have playgrounds.

1849. Then a playground is not much of a place for games, and I suppose it is not open on Saturday or after school hours?—Well, I am afraid in most cases it is never shut; but I do not think it would ever occur to the children to come back to it out of school time.

1850. Do you not think it would be very valuable to give School Boards encouragement to provide a place for children to play their games—a field. It need not be a very expensive matter, need it?—No. I think it would be very valuable to insist upon their making the playgrounds fit for use by the children in that way. Think of the country playgrounds, rough and uncared for: one could quite understand the children not caring to run about on them very much. But there are many country schools where the playgrounds would be quite suitable for any such games as prisoner's base, rounders, etc.

1851. Not for cricket?—Not for cricket.—I am afraid cricket is rather an exotic in rural Scotland, though I should be delighted to see them playing it. But for football.

1852. You say, as an Inspector, that you feel the need of expert assistance in such matters as cookery and needlework and physical training?—Any special technical branch—drawing, also, and music.

1853. Then on the question of not having a hard and fast system of physical exercise, do you not think that might increase the difficulties of the teacher? If they had a different sort of system in each school, would it not be difficult with the teachers coming and going, to have one system in one place and another in another?—But I think we should get at a very healthily defined *system* through the Art. 91 (d) Classes for Teachers. It would be absolutely necessary, of course, that instructors sanctioned under the authority of the Department should teach those classes, and teach them upon a uniform system—such classes, I mean, as I saw at the High School, where we had a lot of the Glasgow teachers who were up there for physical training for themselves and for training in the methods of imparting it to their children. Of course these classes are under Government inspection, too; and the teachers of these classes would have to work upon the Government recognized system; but thus getting a system successfully introduced through the influence of the training of the teachers is a very different thing from starting at the other end and imposing upon all the schools a uniform system which perhaps five-sixths of the teachers would never understand or master. I hope I make myself clear. You are getting the influence of a permanent system through the Department's training of the teachers, instead of by imposing a Code upon the schools.

1854. Then you said something about the number of subjects taught. Did I put down the word right, when you called the curriculum over-loaded?—No, sir, I think that can hardly be right. I might almost say that it has been under-loaded, in one way—that there has been too little variety in it. The schools have been confined to too limited a range of certain specified standard subjects, and could not lift themselves beyond that to treat the training and development of the child on broad lines.

1855. But is there time to teach any more? Is not the school day very fully taken up?—I do not think so, if the time is properly utilized. There is a lot of waste of time; for example, on such a subject as arithmetic. I am perfectly convinced of that.

Medical inspection of school premises useful.

1856. You would approve of some medical supervision of school premises, as well as of the children?—I think that that would be a very useful field as well.

1857. I will not go any further with the feeding question, because I think all the evidence we have heard has been the same way, you think that to give facilities for feeding the children is of very great importance, both for their physical training and for their mental training?—It is a most admirable effort of voluntary work, wherever it is done. I mean there is no doubt about the benefit to the children. As to how it is to be done, that is another question.

Country districts: forms of physical training.

1858. *By Mr M'Crae.*—In speaking of the rural districts, I think you said that the teachers there, without any special training, gave considerable attention to the matter of physical education?—Some teachers. That was in connection with the times even before the matter was specified in the Code.

1859. Apart from that very interesting illustration which you gave us, what form does that physical training take?—Ordinary free or dumb-bell exercises, as a rule; and I should think that, in those earlier days I was speaking of, it took more especially the form of what we used to have, as the old extension motions and company drill movements—very often due to the fact that the teacher had been a volunteer.

1860. Then what sort of exercises do they give to girls?—Oh, very much the same. I used to have a lot of the schools where the girls took the military drill with the boys, and did it capitally too. Of course, latterly, things have been more variegated and developed, as it were, under the lots of 'systems' that have been published.

1861. I suppose in very few cases will they have any appliances for physical exercises?—Oh, it is wonderful—dumb-bells, mock rifles, wands, and so on. I have seen very pretty things done in the way of scarf drill, or with flags, wreaths, etc. I do not attach much importance to these from the physical training side, but they add a little interest and picturesqueness to the thing. They do not do any harm physically. I think they make the children take more interest in the matter. Dumb-bells and bar-bells and rings are very common.

1862. And with regard to jumping, for instance, you have nothing of that kind, on horses?—Yes, of course; I have seen lots of schools where they do that.

1863. That would be more in the towns?—Not necessarily, at all. Jumping, I think, would make splendid exercise, if boys were set to it systematically; skipping for the girls.

Gymnasia in Glasgow: girls and boys attend.

1864. How are the Glasgow schools situated with regard to these higher appliances?—A great many of their gymnasia are systematically fitted up with all the appliances—vaulting horses, parallel bars, slanting ladders, swinging rings.

1865. And do the girls take part in those to the same extent really as the boys?—Yes, the system is applied all through.

1866. With regard to the time spent on physical drill, I think that Maryhill is really the school where they give most time to it in the senior classes?—That is the one as to which the return came to me first. I think their lines are very much the same as the Glasgow ones.

1867. In Class V. I find they give an hour on Tuesdays. Then in Class VI. they give an hour on Tuesdays and Fridays?—Yes.

Time devoted to physical training should be increased.

1868. But you have no hesitation in saying that a great deal more time could be devoted to physical drill without detriment to the intellectual advancement of the pupil?—Taking it over all, I think so, decidedly.

1869. With regard to the continuation schools, have you any idea of the kind of drill they give there?—

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Much the same sort of thing, and more especially in connection with the Boys' Brigade classes—the military drill.

1870. But in the continuation schools, do they take advantage of the appliances which are used in the ordinary day schools?—As far as I know, a good many of them are held in the schools where these gymnasia are fitted up.

1871. And they get the advantage of the gymnasia?—They take advantage of them, yes.

1872. There was one remark you made: in Hawick and Galashiels, I think you said, there was often an interval of two years between the time the boys leave school and the time they begin business?—Yes; of necessity, because a smart boy could pass the old exemption examination at eleven, and he could not get into a factory for full-time work till thirteen.

Town children: casual employment of children after leaving school and before going into business.

1873. But in the large towns has your experience not been that they go direct from school to business, even at a very early age?—Only a few exceptional ones.

1874. Do you think there is really much of that in the towns, that there is an interval between the time a boy leaves school and the time he goes to business?—Oh, undoubtedly. I have made a lot of inquiry into that, and I am quite persuaded that there is no great hardship, as regards juvenile employment, in keeping the children in school till they are fourteen. I am quite clear about that. There are exceptional cases which might be dealt with after special investigation.

1875. As far as my experience in Edinburgh goes, there is hardly such a case as a boy having such an interval between leaving school and going into business?—You mean getting employment—getting employment, say, as a message boy? That certainly was not my experience in Leith, Hawick, and Galashiels; and not in Glasgow, on the testimony of the Roman Catholic managers, who deal with the lowest stratum of the population. An inquiry I made some years ago proved to me that that was *the* source of juvenile crime—outside of inherited criminality—the mere casual employment of children.

System of physical training by advising circular rather than by rigid code.

1876. Then with regard to the code for physical drill, you said that you thought the better course would be for each school to submit a scheme to the Department?—Yes.

1877. Well, do you not think that if this be done on medical evidence, that the better course would be, as has been suggested, that there should be a code, with, perhaps, power to make exceptions from that code, it would be drawn up very carefully, and having skilled medical advice in drawing up the various forms of exercise, do you not think that that would be much better than each school submitting a scheme of its own?—If I might make a technical distinction, which Sir Henry Craik will appreciate, it would be that I would rather see the thing done by a circular than by a compulsory code—an advising circular that would indicate what the Department thought were the lines to go upon.

Games.

1878. Then with regard to games, you said that in Leith they had school football games, and I know they have in Edinburgh. How does that obtain in your present district?—I don't think there is any organized arrangement of that sort. I believe they do play matches amongst themselves, you know; and it is a very large area, Glasgow, of course.

1879. Do you attribute that perhaps to the want of ground to play the game?—I should think that had a good deal to do with it. I don't know whether the Glasgow football grounds would be available; it is too big a place and these are too much run upon. It would be much better for the Board to have a place of its own.

1880. Do you know what facilities the Corporation give for games in the public parks?—I could not say without investigation.

1881. *By Professor Ogston.*—My inquiries refer very much to the working out of physical training in the schools, as you expressed it, under a wisely drawn up scheme, sufficiently elastic, and capable of being rapidly and frequently, perhaps, adapted by the teachers, under the guidance of an expert. Do you think there are any possible difficulties in the carrying out of such instruction in every school?—No—more or less. It is bound to vary somewhat in quality, in finish, with the teacher; but I should expect the whole thing, under a well organised system, to improve generally, as the teachers as a body acquired more knowledge and more practice in the work. You cannot eliminate the variation in the individual teacher, under any regulated system whatever.

School mistresses: not adapted for physical training in principal towns.

1882. I suppose that the schools that are in your eye vary very much in quality as far as they are adaptable to the introduction of physical training. You have some knowledge it is already introduced into some so favourably situated, that little further could be done—but you must have some others in your district of the opposite?—Yes; there are schools where it is not carried very far—where it is done in that perfunctory and casual manner that I was speaking of. It is done because it has to be done, and not because they believe in it themselves.

1883. Yes; but I rather refer to the condition and the situation of the school itself. You have some, I suppose, very remote, poor, and unsuitable districts?—I don't quite catch what you mean.

1884. Well, what is the poorest school that you have? Have you any fishing villages in any poor little islands?—Yes; but I have schools there that do perhaps in some ways the best work in that direction. It all depends upon the teacher.

1885. What is the most remote school that is under your inspection?—The most remote school is one that is away in the very west of Mull.

1886. Could you tell us a little about it? It would be an instance of what, to my mind, would be the worst school—the least adapted for physical training?—No; it is a school where they really do wonders in that way. It is rather a favourable specimen. The teacher takes an interest, and he has got the children to take interest, in it. I remember seeing the girls there dance the Highland reel in the playground to music furnished by one of the children, and I thought that was a capital and sensible development of physical exercise.

1887. You have, I suppose, some of the buildings less adapted?—Yes; there is no doubt about that. That would occur more frequently in the crowded town districts than in the country.

1888. And I suppose the rainfall in the district—the bad weather—is about as bad as it is anywhere in the British Islands?—Oh, yes; in certain districts—in Mull and Arran, for example—it must be very heavy.

1889. But still, on the whole, not so bad as to forbid a reasonable outside adaptation of the physical training?—Oh, no; at this season. Just now, for example, I have just been in Arran, and we had two or three cases where we had the drill out of doors, most comfortably, and with benefit to the children.

1890. And the playgrounds in these places are also relatively fairly adapted?—They are, quite, as far as size is concerned, when they are too often in an unsatisfactory condition.

1891. They do not absolutely veto the instruction being given in them?—I should say not, certainly; but the playgrounds are not used, as a rule, for that purpose. In some of these country schools they are too apt to do this physical exercise work inside the schools, just because it is a school business. I am getting them educated to take it out of doors as much as they can.

1892. Some of these smaller schools, I suppose, would be exclusively taught by male teachers?—Yes, the small ones.

1893. And some of them exclusively taught by female teachers?—A few also. This is a smaller type still—usually.

1894. Could you tell us the proportion of schools taught by both male and female teachers, those taught by male teachers alone, and those largely by female teachers? Could you give us any indication of the proportion?

1895. *By the Chairman.*—I think, if he cannot

answer that, he might find it out and let us know. If you would not mind doing that?—I should need to have the area defined.

1897.—Oh, in your own district?—My own personal district?

1898. *By Sir Henry Craik.*—I think that could be got from the Department more readily.

1899. *By Professor Ogston.*—Then your teachers, when they are being trained, I suppose are subjected to a medical examination before they enter as pupils for a normal or training school?—Yes.

1900. They are medically reported on?—Yes, they must have a medical certificate.

1901. And do you know what would exclude them from the profession of teaching, in the way of health or defect; do you insist upon them being perfect individuals?—If we look at the Code, practically what is mentioned in connection with the admission of pupil teachers, I should think, would apply. It is in schedule I of the Code, the health certificate required for pupil-teachers:—'Scrofula, fits, asthma, deafness, great im-'perfections of the sight or voice, the loss of an eye 'from constitutional disease, or the loss of an arm or 'leg, or the permanent disability of either arm or leg, 'curvature of the spine, hereditary tendency to insanity, 'or any constitutional infirmity of a disabling nature, 'is a positive disqualification in candidates for the 'office of pupil-teacher.'

1902. And the teachers also are examined medically, certified as bodily fit?—I believe they have now to send up a doctor's certificate in connection with the Superannuation Scheme.

1903. *By Sir Henry Craik.*—It may be more easy for myself to explain that scheme. Since the Superannuation Scheme was passed which imposes the burden of a pension upon the teachers, we are more strict in these matters that weakness or a bad life might be rejected, just as an insurance office, by the medical officer. The strength of muscle and measurement and all that is not taken. We examine them much as a medical officer of an insurance company would examine them.

1904. *By Professor Ogston.*—Do you know is there in your district any instance of physical unfitness amongst the teachers, male or female?—No; I do not recollect any.

1905. No such thing as a cripple or a club foot?—Oh, yes, I have seen that; but the teacher is quite a competent teacher notwithstanding.

1906. You know some instances at the present moment of cripples or maimed?—Yes; I came across a teacher under the Glasgow School Board just the other day—an old man who has not the use of his right arm at all. Of course he is a sort of survival from the earlier days before this medical examination was so strict.

1907. *By Sir Henry Craik.*—Such a teacher would not be accepted now?—No.

1908. *By Professor Ogston.*—Such a teacher would not be accepted now; I should like that to be put down in the evidence, as that is important?—No.

1909. Well, now, regarding the average teacher with whom you have to deal. Do you think that, say, a lady, is physically able to pick up and practice so as to teach the exercises that would be required for the children under her care?—Undoubtedly; the ladies have been the best teachers of the physical drill in my experience.

1910. And you, knowing the burden of a teacher's life, think it would not be unfair to load those ladies, perhaps already bodily fairly well occupied or strained, with the picking up of physical drill which would be applied to supple little children?—Not a bit; they enjoy it themselves, and they find the benefit of it themselves.

1911. So that I take it all your teachers could reasonably be expected to qualify themselves?—Quite; I do not think there is any difficulty about it.

1912. And that statement would also apply to the male teachers?—Oh, yes.

1913. Even all those who are no longer quite young?—Well, yes; I think you would not get many cases where these had not, perhaps, some juniors—I am referring more to the big towns—who, under their direction, could manage the thing.

1914. *By Sir Henry Craik.*—You understand the Superannuation Act requires a teacher to retire at sixty-five; he cannot go on longer.

1915. *By Professor Ogston.*—Do you find many instances of failing health amongst your teachers, requiring special holidays, a special grant of leave, and the like?—No; they are a wonderfully healthy class. In a large town like Glasgow, where the staff is so very big, there always will be one or two off in a casual way from illness, but serious breakdown from ill-health is a very exceptional thing.

1916. And I suppose that in the case of threatened breakdown of health you deal sympathetically or liberally with leave allowance?—Of course that is a matter in the hands of the managers.

1917. Of the managers?—The School Board or other managers; it is entirely with them.

1918. But they are fairly well dealt with?—Oh, yes.

Medical inspection of teachers unnecessary.

1919. My last question is this: would you extend the medical inspection, that I think you approved of, for children and buildings, to the teachers also? Would you have the teachers medically inspected?—It did not occur to me. I do not quite see why you should inspect a responsible individual, an adult, who can look after himself or herself.

1920. You think it unnecessary?—I do not think it necessary.

1921. *By the Chairman.*—I understand your questions as regards leave to teachers and that refers to their state of health?

1922. *By Professor Ogston.*—Yes.

1923. *By the Chairman.*—From their state of health point of view?

1924. *By Professor Ogston.*—Yes, exactly.

1925. *By the Chairman.*—I mean, your object in bringing that out was to show whether what they were doing, excluding these physical exercises, affected their state of health.

1926. *By Professor Ogston.*—Precisely; whether it would be a reasonable burden to put upon them from a hygienic point of view, that they should acquire and teach these exercises. It has never yet been brought out, and I wished this witness particularly to bring it out.

District and division of witness: responsibility.

1927. *By the Chairman.*—Quite right; I think that is quite within our remit. (*To witness*) You have a very large district in point of population, have you not?—Very large.

1928. Is it so large that you hardly feel that you are able to answer thoroughly for the whole of it?—I am getting more able to than I was.

1929. You have been two years?—Nearly three now.

1930. Nearly three years?—Two and a half years fully.

1931. Well, I should like you to name, to start with, the principal towns—irrespective of Glasgow, about which we have heard a great deal—the principal towns in your district?—As my district stands at present, I do not have a *town* almost at all.

1932. You do not have a town?—No; I have the whole city of Glasgow; and then I have the three islands of Mull and Arran and Bute, and, of course, in them there is really no large town at all. Rothesay is by far the largest town outside of Glasgow. There is the little town of Tobermory in Mull, and there is no town at all in Arran.

1933. But is that the extent of your district? I understood you to say that you went down to Dumfriesshire?—That is my *Division* as Chief Inspector.

1934 Very well. I want to ask you whether you have any experience of that division, or whether it has been too large for you yet to overtake it?—Unless in very exceptional cases I have never been actually working outside my own personal district. I am responsible for the inspection of a district as a district inspector, in addition to my diocese.

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1935. I wish you could tell the Commission as to how far your responsibility goes in the rest of that rather enormous district. I really want to know how you come to be in any way responsible. What you say is that you work your own district, or a district in Glasgow, and these islands; but how far are you in any way responsible to your superior authority for the rest of the district that you told us you were entrusted with?—I think that is almost a matter that Sir Henry Craik could explain even better than myself.

1936. Oh no, but I want to ask you?—I am responsible for doing all that I can.

1937. I think it very important for the Commission to know exactly how far you are really responsible for that large district?—I am responsible in the way of what you might call conference with my district colleagues, who are just as independent in their own districts as I am.

1938. But I understood you to say at the beginning of your evidence that you were really in charge, did I not—in supreme charge?—You asked me as to what my 'division' was.

1939. I do not know whether it is division or district. I tell you I come before you quite ignorant. I want information?—Well, I am what is called the Chief Inspector of a division, which gives me a certain official superiority over all the inspectors who have districts in that division.

1940. Exactly?—Of whom I am one, having a district of my own as well.

1941. But it does not entail your presence personally in the rest of the district, except that part which is under your immediate control?—Not of necessity. I am there——

1942. As a referee?—As an officer for reference from the Department about any special matter.

1943. *By Sir Henry Craik.*—Does the Department ask you, when you feel able to do so, occasionally to accompany the other inspectors in some of their visits, just to see whether their methods had your approval?—I have only been able to do that in one case.

1944. *By the Chairman.*—You must not think me too intrusive, but I would ask you what part of your district other than your immediate district you have been to?—I have been in Ayrshire with Mr Lobban—officially that is, since I came into this division. I have also inspected, along with my colleague Mr Barrie, in former years in Wigtownshire and Kirkcudbrightshire; and I have officially, in connection with the higher class examinations, been in Mr Boyd's district in Renfrewshire.

1945. But not in Dumfriesshire?—Yes, I have been with Mr Barrie in schools in Dumfriesshire too, but not in an official capacity.

1946. *By Sir Henry Craik.*—But in case of special difficulty, we might send you there specially?—Yes.

1947. *By the Chairman.*—I understand. I did not understand that before. I am bound to say I am glad to have got it.—I might put it that each Inspector in his own division is practically independent as far as the conduct of the work goes, and is directly responsible to the Department, not to me.

1948. Then you do not even travel so far as Paisley?—I have been there for that higher class inspection; it is not in my regular beat. In the course of my work I think I have inspected officially in nearly every county in Scotland now.

1949. Sufficiently to be able to tell us. What I want rather to get at is in this division, which you call it, which is under you, is there anything unusual in any of the subsidiary towns, such as would not be found in Glasgow?—No, I do not think so.

1950. Taking it generally, all those little towns all the way down your division, beginning up at Dumbarton, down Paisley and Ayr, and down towards the Solway by Newton-Stewart, and Castle-Douglas, Dumfries, and Annan, and all the way along—there is nothing special, you think, other than what would be found in a large town?—Except that so far as the physical training matter is concerned they are very favourably situated. There is more fresh air about them, and not the same congestion of population.

1951. Not the same amount of smoke?—No.

1952. Except Paisley, perhaps?—Well, Paisley is a good deal better than the Gallowgate of Glasgow.

1953. And Greenock — what about Greenock?—Well, Greenock is pretty much like Paisley, perhaps a shade worse, I should say, in the general quality of its atmosphere.

1954. Now then, just one or two questions—I will not keep you long. You were talking about the curriculum, and you rather gave us to understand that you considered a strict curriculum on the whole was rather a mistake?—I do, positively.

1955. That is to say a lazy teacher might avail himself of the liberty given him to do as he pleases?—It is one of our special functions as inspectors now, to watch that the liberty is not abused.

1956. You agree with me, do you not, that that is the fault of not having a distinct curriculum?—That is the danger certainly.

1957. The danger?—Yes.

1958. Do you know this, that there is an idea that owing to the latter-day Codes the extra smart boy or girl has been somewhat damped or thrown back or kept back?—Oh, there is no doubt of that.

1959. I mean the 'lad wi' pairts' that we used to hear about does not come to the front now so much nowadays as used to be the case; you have heard of that?—Yes. I think it has been overstated.

1960. You do not think that a common curriculum carried on at the same time to a common result in physical as well as mental matters would have the effect of reducing all to too common a level without any superior plant of excellence appearing?—It has that tendency.

1961. That is the objection?—Yes.

1962. I can only go here into physical matters. You would say that you do not want any super-excellence in physical training?—No.

1963. So long as all have a certain measure of the training that is necessary to make them better physically than they were before?—That is my feeling distinctly. *The* element is to the training. It is not a matter of accomplishment that you can gauge with respect to an individual's attainment in it.

1964. Exactly?—You do not want the children to be going out as professional gymnasts.

1965. That is the point of difference between physical excellence and mental excellence?—Yes.

1966. You do not want superior excellence in physical matters, whereas some people rather hunger after it in mental matters?—Yes; you must have that chance given to superiority of mental excellence. I do not see the same need for that in physical.

1967. Well, now, we have had put before us that there would be some value, particularly in children after school age, in being accustomed to handle rifles and being able to shoot with Morris tubes in default of other things. Do you think that would be of any value. You have perhaps hardly considered it up to that point?—I have only been looking at the thing from an educational point of view, and I do not see any particular value in that *educationally*.

1968. Not as valuable as swimming?—No, certainly not; oh, no.

1969. At the same time, you don't see any objection from the point of view of any boy being able to handle a gun, do you?—On the contrary, I should go the length of making it as nearly as possible compulsory; but not from the educational point of view.

1970. But from what point of view then?—Say, from the national point of view.

1971. But, then, is not that education; is not physical education national education? I do not want you to be narrow. I want you to be on a broad plan, because the essence of this inquiry is physical training becoming a necessary part of education. Will you stretch yourself out sufficiently to that?—I should say that military training is not necessarily an outcome

or part of physical training. Physical training does not of necessity lead to military drill.

1972. The ability to handle a gun, do you call that military training?—Oh, I think so.

1973. But you don't call it part of general education?—No.

1974. And you could not include it in a part of general education?—I would not be inclined to call it so from an educational point of view.

1975. Not what we call advanced education, that is to say, after the age of fourteen?—No, not unless you are going to postulate, say, the German principle, that the State is entitled to compel every man to be a soldier and bear arms.

1976. Do you think you cannot bear arms without being a soldier, having regard to the Volunteer principle which has been so prevalent in this country?—Why should you want to bear arms, if you are not going to use these arms for some special purpose?

1977. Do you differentiate between the soldier and the volunteer?—Yes.

1978. Do you think the volunteer is not a soldier. I do not want to take you too far?—No, I think the volunteer is the material for making a first-rate soldier, but he is not a soldier. He is a citizen who has voluntarily qualified himself.

1979. And has specially qualified himself to carry arms?—Yes.

1980. Which you think to be a good thing?—I think a very good thing.

1981. I put it to you again as a further education. Do you not think it might be a part of every boy's education to so far qualify himself in a citizen capacity, not as a soldier as you put it, to bear arms and to be able to use them?—Taking it from the citizen's point of view—the duty of the citizen—I go with you entirely, but I am not prepared to say it is a necessary part of education in the school.

1982. But you see no objection to that?—None whatever, if you get the people with you.

1983. You are naturally well educated and well to the front in every way, but do you not think there would be considerable objections from other portions of the community?—I do not think I should anticipate any very serious objection after the first struggle, if the matter were put plainly.

1984. If there was any objection at all, from what type or from what class should you expect it to spring—from the ordinary parent?—Not the ordinary parent, perhaps as a class.

1985. The extraordinary parent?—This is getting a little on the political verge—but I was thinking of the sort of ultra-radical Hawick or Galashiels weaver, for example, who would take objection to being compelled to make his child a soldier, or even an imitation soldier. Now, I think that man would be best taken by its being simply stated that it is the duty, in the opinion of the nation and of the legislature, that every fellow who is physically fit should qualify himself more or less to bear arms and to drill along with his fellow-men. I should like to see them forced to go into the Volunteers or else go through a course of training otherwise.

1986. Have you any acquaintance, so far as you have been concerned, with the prevalence of inferior eyesight in children?—I have.

1987. I should rather like to ask you on that point. Do you consider it is increasing in your knowledge, or do you think that it always was there, and we did not give them spectacles before?—Yes; I should think that is probably as much the line in which the evidence would go as any other—more attention has been paid to the children. I may mention that I made some investigations, and called special attention to this matter in my general report last year in connection with the Glasgow schools.

1988. Would you mind summarising, very shortly indeed, what you said in your report?—It turned up in connection with the lighting and internal arrangements of classrooms in some of these large Glasgow schools situated in very dull, dingy, dirty localities; and I found that the ordinary rules and the proper methods of seating were entirely neglected. I found children, for example, sitting in a dark gallery here (indicating), with the only light coming from there (indicating), and the gallery blocking up about one-third of the window, and the children sitting with their backs to the light and set to do drawing and writing exercises, working in their own shadows, and with a very poor light at that. This led me to make some inquiries, more especially through one of my colleagues, Mr Andrew, in Govan, where I knew that the Board had taken the matter up. He sent me a copy of the report of a lady doctor, Miss Gilchrist, who had been investigating the matter for the Govan School Board, and her statistics were rather startling. She found, I think, that over forty per cent. of the children were more or less defective in vision, and a very considerable number, too, to a serious extent, and pleaded very strongly for the medical inspection of them, and for the use of glasses in good time with them, as relieving them from much strain and worry in their bookwork.

Periodical medical inspection very valuable.

1989. And that rather bears out your previous recommendation, does it not, that a medical inspection periodically of schools is almost all-important?—And it would be, I think, very valuable indeed.

1990. And it does not exist?—No.

1991. In any sort of way?—Not officially, as far as I know.

1992. May I put it to you, as far as you are able to answer, would it not be quite feasible for the present local authorities of health in all districts and counties to order their medical officer to inspect all the schools—there is a medical officer to every district committee?—I should say that, probably, in country districts there would not be a great deal of difficulty, but I should rather fear that the amount of work in large congested areas would involve the necessity, perhaps, of some addition to the staff. But I really could not speak definitely on that.

1993. But it is quite within the power of any district committee, as the local authority in Scotland for public health, to order their medical officer to inspect anybody or anything, is it not?—I could not say what the powers are exactly. It is not a matter I have looked into, so I could not say what powers they have.

Children should be specially graded.

1994. *By Mr Shaw Stewart.*—We heard from an expert witness this, that it was important for physical training in schools that children should be graded according to their physical strength, and not according to their mental attainment?—Quite so.

1995. Now, do you think that would be at all practicable?—Oh, perfectly; that is very much what we are trying to carry out in connection with different subjects of instruction. I maintain that they ought to be graded in different classes for different subjects.

Code, Art. 19: grading recommended in each separate subject.

1996. *By Sir Henry Craik.*—One of the new points in the new Code is that we permit the grading of the scholars according to their proficiency in each separate subject?—It is even stronger than that; that plan is recommended distinctly.

1997. We do not classify them in standards now; by our Code we have absolutely abolished the very name?—Perhaps I might read the clause—it is at page 5 of the Scotch Code, the last sentence of the third paragraph of Article 19, at the top of the page:—'The arrangement of work within 'each division and the classification of the children 'need not correspond to the sub-divisions of the 'Standards of Examination (Schedule V.), but they 'shall be such as are fitted to secure the attainment of 'the Merit Certificate stage by easy gradations.' And then comes the point:—'The classification should 'be such as to afford due opportunity for pro-'motion, and promotion in one subject, *e.g.* Reading, 'should not be made dependent on proficiency in 'another, *e.g.* Arithmetic.' That is to say, it is recommended that the classification for the two subjects, reading and arithmetic, be entirely different. A child may be in the fourth class for reading and only in

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the second for arithmetic, if that is all his capacity. And, of course, the physical drill would be taken very much at one given time. There is no difficulty in the teacher's arranging so that the squads in physical drill should be squads at a level of physique and advancement in the work.

1997a. *By Mr Shaw Stewart.*—It would throw a little more work on the teacher, but you do not think there would be any difficulty in carrying the provision out in the sense you speak of?—No; I would consider it a proper part of the headmaster's duty.

1998. In fact it would be insisted upon?—Yes.

1999. *By Sir Henry Craik.*—Just as it would be insisted upon in any other part of the instruction. If we found that scholars were put into a class that was unsuitable for them in arithmetic because they were up to a certain class in English or in any other subject; we would consider that school ill-taught and ill-organized, and reduce the grant.

2000. *By Mr Shaw Stewart.*—I am very glad to hear it is so feasible.

Medical examination: further defects might be revealed. Code, Art. 20.

2001. *By Mr Alston.*—Would you push the medical question a little further? It is believed that the eyesight is defective to a much greater extent than people imagine; is it not possible that further medical examination of the school would bring out other defects of which the teachers know nothing?—I quite think so.

2002. For instance, cripples are known at sight; they can be arranged for; but is it not the case that there is a large class almost on the border line of imbecility?—Yes; we now have special provision for them, those called 'defectives' and 'epileptics.'

2003. *By Sir Henry Craik.*—That has been made in the Code for this year.

2004. *By Mr Alston.*—It is now receiving attention, I understand?—From the Glasgow School Board I got word of three special centres where classes for these children are held and organized. Of course they are all medically examined; there has to be a medical certificate in connection with them. They are not imbecile; they are mentally weak and defective, for some reason or another—not fit to progress with the normal child.

2005. Then is that medical examination a regular examination authorized by the authorities?—Oh, yes, required by the Department.

2006. *By Sir Henry Craik.*—This is a new article introduced into the Code this year. You will find it at page 11, Article 20.

2007. *By Mr Alston.*—The remark was made more than once that medical inspection would be very desirable in the schools, implying that there was none. Does that refer to the general state of health of the child, or to the insanitary condition of the classrooms, because here we have a sufficient medical examination as to this mental defect at any rate?—Well, *both* I had in my eye, and also the very thing you mentioned—that is to say, defects that an ordinary teacher, any ordinary unskilled person, might not notice—defective eyesight, defective hearing.

2008. Would it not be of advantage that there should be an official medical examination in order to bring out all these facts in all the schools, first as to the sanitary condition of the school, the position of classes in relation to light, upon which you remarked, the atmosphere in the classrooms, as to the children who have defective eyesight, defective hearing, who are defective in the mental sense, and so on, so that there should be no School Board which was not thoroughly posted up in the condition of the children under its charge?—I should like to see it certainly; of course it is a matter for Departmental administration.

2009. *By Sir Thomas Coats.*—There is just one question I would like to ask with reference to some questions put to you by Mr M'Crae. You said, I think, that in the case of boys, after leaving the school there were two years during which they were not regularly employed; do you refer to the present time, or to the time when boys, after passing these standards, could get exemption?—To that time, specially.

2010. To that time, not to now, when they are fourteen years of age?—We now keep them in school till they are fourteen.

2011. They can begin work at once?—They ought to be fit for it, if they could get it.

2012. It would not apply now—to the conditions now prevailing?—No.

2013. *By Mr Shaw Stewart.*—You are in favour of the physical inspector working with the school inspector at school inspections?—Yes, presuming we had a specialist inspector appointed.

2014. Do you think that the physical training inspector should report direct to the Board, or should the representation come through the school inspector?—Presuming that he is an official, the normal plan would be for him to report to the Department.

2015. Direct?—And let the Department deal with the report as they thought fit. That is the sort of arrangement with regard to cookery.

2016. *By Sir Henry Craik.*—Nobody reports to the Board; they all report to the Department.

2017. *By Mr Shaw Stewart.*—I should have said the Department. The point I wish to get at is whether his report should be quite independent of the school inspector?—Oh yes, I think so.

The witness withdrew.

Captain G. A. Armytage, examined.

Captain G. A Armytage.

2018. *By the Chairman.*—You are the Superintendent of Gymnasia in the Scottish District?—I am.

2019. And have been so for how long?—Since November 1899.

2020. Now perhaps, before you begin to say anything for the information of the Commission generally, you would give us a short description of what your duties and powers are as Superintendent of Gymnasia in the Scottish District?—As regards military work?

2021. Well, as regards work in any way applying to you. Do you come before us in connection with schools, or do you come before us in connection with military gymnasia only?—Well, I believe I come before you as both.

2022. If you have got anything to do with schools let us know about it?—As far as the teachers' classes go?

Duties and powers.

2023. If you please?—As far as the military gymnasia go, I have practically charge of the whole of the gymnasia in Scotland. I have my big gymnasium in Glasgow, and I have to inspect every depôt in Scotland that is under the War Office; and as regards schools, I have been inspecting the Teachers' Classes under Article 91 (d) of the Code.

Teachers' classes. Art. 91. Report Secretary Scotch Education Department.

2024. Where?—At Cupar-Fife for two years, and this year at Hamilton, Falkirk, Dumfries, and Glasgow High School. Hamilton is of course the only one completed this year; the other three are going on now.

2025. And the result of such inspection at these educational establishments is reported by you to whom?—To the Secretary of the Scotch Education Department.

2026. As well as to any military authority?—No, sir; as far as military authority goes, I have simply got the consent of the General Officer Commanding to help the Scotch Education Department as much as I can.

2027. You do not have to make any similar report to the General Officer Commanding in Scotland?—No, sir, not as regards schools.

2028. Well, then, with that preface, would you mind going through what you have to tell us, and then, after you have made a certain statement, anyone will ask you

questions that may suggest themselves?—As regards the opportunities for teachers learning, there are the classes which are under Article 91 (d) of the Code. These have been carried out under various instructors, whose names, I believe, have been submitted to the Secretary of the Scotch Education Department by the different School Boards, and they have been taken sometimes from non-commissioned officers at depôts, gymnastic instructors, sometimes from retired non-commissioned officers, and some of them have been taught by Colonel Cruden, of Aberdeen, and Mr Sturrock, of Dundee. I have seen both Colonel Cruden's work and Mr Sturrock's work. Mr Sturrock's work I saw at Cupar-Fife, and Mr Cruden's work I have seen at Hamilton. In both cases I found that the work was not what you could call smart. Looking at it from a gymnastic point of view, and rather putting it in general terms, it was certainly not up to the quality of the work done at Aldershot. On the occasion of my first inspection at Cupar-Fife, I had not had the syllabus of the course at all, so I had to learn what had been taught by seeing the thing worked. I asked Mr Sturrock to put the Board School teachers in Fife and district through as a class, and he put them through under an instructor, who, I believe, was a corporal of the Volunteers. I saw him put them through about three movements. I called out Mr Sturrock at once. I said, 'Do you realise that the instructor has already 'made several mistakes, and has not checked the 'teachers in the least? You must understand that this 'class has been a class for teachers, and these teachers 'have got to instruct children afterwards. If they are 'not instructed properly themselves, they cannot be 'expected to know how to instruct.' That was the main point of the thing. Then I also discovered that they had only been taught a very limited amount of the course—in fact, I believe Mr Sturrock was under the impression that he was going to examine the class until I appeared, and I found that the work had not been thoroughly done. They certainly knew what they had been taught, but it was too limited. I cannot remember what the size of the class was—I should say from thirty to forty. The next year it was better at Cupar-Fife. Then, as regards Colonel Cruden's course at Hamilton, there the whole syllabus was sent to me, and I again wanted to see the class work as a class. There was the same sort of number in the class, just about thirty there too. I found there that they had not been taught enough as regards teaching. They had done the whole work as a class, but they had not been taught enough as regards teaching. They could only teach about six movements, whereas they ought to have been able to teach the whole lot, but the time was too short. Twenty attendances are not enough. Twenty attendances, of an hour each, are not enough to expect a teacher to learn the work in. These attendances were done one day a week, at a certain time, that day probably Saturday. That was the case at Hamilton, I think. It is not always a Saturday, but I know in most cases it is Saturday. I believe they were all teachers or pupil-teachers. I think I am right in saying that the Cupar-Fife course was a continuous course of a fortnight. It was not like the ones in the big centres like Hamilton this year. Colonel Cruden had the course there, and that was a course of which I was saying that again the teachers had not been taught to instruct. The other classes are in progress now, and I have inspected them owing to the Hamilton case. I started them on that course, and I think they are going as they should do. I mean, I pointed out what mistakes might be made. About military gymnasia. Do you wish to know what we do there? Our system there is gradually training the recruit after he joins. The regular military course is for any man over eighteen, you may say—it is supposed to be. We take drummers and buglers, and we give them exactly the same course, only slightly modified. If the instructor is any good, he has got the sense to modify the course according to the pupil. A drummer can enlist at fourteen. They get three months of an hour a day in the gymnasium in the depôt. That is nearly all exercise, without apparatus, with the exception of horizontal bar, and parallel bars and dumb-bells. If they are not up to the standard then, they are reported on by the commanding officer and the medical officer, and a Board is held on them, and it is decided whether they shall stop longer at the depôt, and go through a longer course. Then, besides that, they do three hours' drill outside. They practically have four hours' drill in the day, counting gymnastics. If they are reported on as fit at the end of three months, they go to the battalion, or provisional battalion, whatever the case may be, where they go through a further two and a half months' course of gymnastics of an hour a day; five hours a week. If they are not considered fit then, another Board is held on them, and the question is whether it is desirable for them to be kept in the service or not. This work is done with the following apparatus—the horizontal bars, the parallel bars, and dumb-bells. These are of four pounds weight. We consider it good progress if a man, after a month's service, can pull up to the breast twice with hands reversed without assistance, and if he can press up on the parallel bars four times. That it should increase at the end of three months to ten pulls and fourteen presses. That is, following on the Aldershot course. As superintendents, we are brought up at Aldershot. We go through our six months' course there, and then we have to go down and carry on the same course in the districts.

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Apparatus used.

2029. *By Sir Henry Craik.*—The services that you have given to the Education Department date only from about eighteen months off, now?—Yes; the first inspection I made was at Cupar-Fife, when you asked General Chapman if he could send an officer in. That was before it was really recognized by the Education Department.

Teachers' classes: inspection necessary.

2030. So far, it has been confined to the examination of Classes for Teachers under Article 91 (d)?—Yes, sir.

2031. And there you found that inspection was considerably required?—Yes, sir.

2032. Previously to this, these classes for instruction had been carried on under the auspices of Colonel Cruden and Mr Sturrock, and certificates had been granted by them?—Yes, sir; I believe it is the case.

Granting of certificates.

2033. There was some surprise when it was announced that the certificates were to be granted by the Department upon a report from you?—Yes.

2034. Did your experience lead you to think that some outside official authority in the granting of these certificates was urgently required?—Certainly.

2035. And, of course, now it will be enforced?—At all these, yes.

2036. Were there men and women together in these classes?—Yes, sir.

2037. Then that would to a certain extent limit the character of the training, I should think?—To a certain extent, but there is very little in the training that a woman cannot do as well as a man. There are only two or three exercises that have to be cut out.

Teachers' classes: defects.

2038. Was the defect in these teachers' classes that they have not learned enough themselves, or that they have not learned to teach these things?—I think they have not learned to teach enough. I think they knew the work, but they did not know how to impart it.

Instruction in ordinary schools should be given by ordinary teachers properly trained.

2039. Do you think that out of these classes of regular teachers, properly instructed, and carefully examined before the issue of the certificates, you would get a better class of teachers than from military experts?—I do not say better; no.

2040. I mean, would you prefer that teaching in our ordinary schools was left to the classes whom you saw under instruction, if that instruction were well given, or would you rather that it was handed over to experts brought in from the outside for a certain time each day?—Well, I think every teacher in a school ought to be capable of taking their own classes in the physical training that is necessary.

2041. So that if classes like those under Article

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91 (d) were thoroughly well taught, well inspected, and the certificates only granted after careful examination, you think that from them you might get the best class of teachers?—Certainly.

2042. You have consented, I think, at the request of the Department, to take part in the examination of the Training Colleges?—Yes.

2043. Where the students who are preparing for the professional career will be under instruction?—Yes, sir.

2044. You will be associated there with the Inspector of Training Colleges?—Yes.

2045. You have not yet seen any of the work actually in the elementary schools?—With one exception.

2046. Where was that?—At Alloway.

2047. Then you did not visit officially?—No, not officially.

2048. But you found that very good?—Yes, sir.

2049. Have you seen it in any of the secondary schools?—No; I have seen no secondary school work.

2050. You have not seen any of the cadet corps in connection with any of the schools?—Not in connection with the schools; at least, I could not identify them with the schools.

Inspection: at first frequently made by expert.

2051. Do you think it would be possible for yourself or any expert with the same sort of experience, by occasional visits and by communication with the inspector, to ensure the excellence of the teaching throughout the schools?—I think that it would want more than an occasional visit from one man.

2052. If you yourself or some expert grant the certificate to the teacher, if you were there when the work is carried on by a teacher who has earned such a certificate, and if when you happen to visit you find that the work is creditably done, do you think that a very occasional visit would be sufficient from the expert?—It should be, if the teacher is properly taught to start with; of course it should be.

2053. And if the expert found defects he might call the attention of the ordinary inspecting officers, and ask them in their ordinary visit to keep their eye on such and such a school?—Yes.

2054. You do not propose that there should be a military expert paying as frequent visits to the school as our ordinary school inspectors do?—I certainly think there ought to be, I will not say a military expert, but I say an expert, whoever he may be.

2055. An occasional visit and conference with the inspector, and the ensuring thoroughness of teaching by having certificated teachers, would not, to your mind, be sufficient?—It would take a very long time to get that. Certainly, to start with you would want more inspection, until you were thoroughly satisfied that it would work.

Uniform system desirable.

2056. Well, that leads directly to another question. Would you have a uniform system or would you have each man to devise his own system?—I should certainly feel inclined to say a uniform system. Because teachers go from one school to another, I believe, and if you got teachers going from one school to another and found they have to teach another system it will upset them; but I would say this, that every teacher ought to know one system, and if different schools liked to vary their exercises to a modified extent, to suit local circumstances which may have some effect; I do not see any harm in it, but I think every teacher ought to be taught the one system, a good thorough system—I will not say which is the best.

2057. *By the Hon. Thomas Cochrane.*—Why not say which is the best?—I mean that is a matter to be found out, I think. I think it is a thing that still demands a certain amount of investigation.

2058. *By Sir Henry Craik.*—But a uniform system, if it prevailed, and if we were satisfied that a teacher who earned his certificate was qualified to teach that system, would render less inspection necessary, and would render the inspection more simple when it did take place?—Certainly, if there was a uniform system.

2059. Of course, if there is to be an infinite variety of systems, then you must have an expert to give a judgment on each occasion that the school is visited?—He has practically got to learn what is going to be taught before he can inspect.

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2060. And he must pronounce whether the system is efficacious or not?—Yes.

2061. Whereas if you have a uniform system any man would understand whether that system was being properly carried out, and the fact that it was properly carried out would attest the efficiency of the teaching?—Yes.

2062. You have not been able to see as yet anything of the scholars in our schools. Probably your experience is not long enough to enable you to compare the physique of the recruits in Scotland, but from general knowledge do you know if it is improving or falling off?—As far as the physique of the scholars, it is going on.

2063. The recruits, I suppose, are all that come under your observation?—At present, yes.

2064. Is it better or worse than it was?—You mean when the man actually enlists?

Physiqu recruits bad, pro due to w feeding, proper t ing.

2065. Yes?—Well, I cannot say. Of course, these last two years have been a very bad time to judge that; I mean to say we are getting infantry recruits at present at a shilling a day, and the best men are going to the Yeomanry at five shillings a day.

2066. But where do you find the defect? Is it in racial or constitutional matters, or in defective training; is it the want of any training whatever beforehand?—I think it is the want of feeding to a great extent that they come up as bad as they are.

2067. And they are exceedingly awkward in the movement of their bodies?—Yes.

2068. And in the use of their limbs?—Yes.

2069. You find they improve?—There is no doubt about it.

2070. It is not so much constitutional defect as want of training?—Want of training, to a great extent. You must remember we get our recruits at what the doctor calls physically 'up to the standard of 18.' Well, of course, without the birth certificate it is hard to judge what the man's age is. Well, those men may be under weight—three or four pounds under weight. They may be under chest measurement; they may be under height; but we have to take them, and they are called 'specials.' Well, every 'special' gets his three months' training like everybody else at the depôt, and at the end of his course he is examined. Well, it is very seldom we have one of these 'specials' who has not made up to the standard in the three months.

2071. That means that the defect has not been in any congenital weakness?—No; the doctor will not pass a man like that.

2072. But that he has not had the training that ought to have developed him?—Yes; and the feeding.

2073. And do you find that many of the defects are such as you can clearly trace might have been removed by early training?—Oh, certainly, sir.

2074. Such as——?—Well, you find men with narrow chests and sloping shoulders, and flat feet, and bandied legs and knock-knees.

2075. Evidently neglected through their school career?—Certainly.

Time: fu hour per for every

2076. How much time do you think would be required in a school curriculum for this work to do it thoroughly for children. How much is given to those who come into your gymnasia?—Into the military—oh, an hour a day in a military gymnasium; they should never get less.

2077. But you could not get as much as that in a school?—No; but if you can get a full half hour for every child in a school every day—a full half hour——

2078. It would have removed many of the difficulties that you have found in the recruits coming up?—I think so; I am certain of it.

Teachers quite ca physical teach.

2079. *By Professor Ogston.*—From what you saw of the teachers that were being instructed by Sturrock and Cruden, do you think that those men and women, male and female teachers, were capable of being taught to teach?—Certainly, sir.

2080. There was no physical disability or stiffness caused by their age that would prevent them learning the perfect system that you advocate, so as to teach it to others?—I do not say that they were capable of carrying out the work themselves, because they were not—you cannot expect a man or a woman of forty or fifty to be able to do what a boy of fourteen can do.

2081. Precisely?—But I see no reason why, if they have got common-sense and brains, they cannot learn what position a child ought to be in, and know whether they are doing their work properly.

2082. Though they could not actually demonstrate it they could teach it?—Yes.

2083. Just one other point. I suppose a great number of your recruits are rejected on physical grounds?—Yes, sir; that is before they reach me.

2084. Before they reach you; by the medical inspectors?—Yes.

2085. Do you think that the teachers, male and female, who subsequently will have to teach physical training, ought to be themselves subjected to an examination similar to what recruits are subjected to; should they be examined for knock-knee, flat-foot, rupture, and so on; is it essential that they should be?—The teacher?

2086. The teacher who is afterwards to teach?—No, not absolutely necessary.

2087. *By Mr Alston.*—In reference to these teachers, at present those who come to take instruction are of advanced age, I should say?—Many of them.

2088. Forty or fifty even?—Some are.

2089. Are there any younger than that?—Oh yes; I should say they range, judging by their looks, from eighteen.

2090. Both male and female?—Yes.

2091. Have you noticed anything in the capacity of these male and female teachers; their standard will be very much higher mentally and educationally than that of the army recruits of whom you speak?—Oh, of course, in many cases.

2092. Their capacity to acquire what you are teaching them?—Yes, sir.

2093. In that way it is rather an advantage to have such a class of people to deal with, and I suppose there is nothing to prevent them acquiring a power of communicating to the children what they have learned?—There are certain people whom you can never teach to instruct, who will never make an instructor, as the most of them ought to do.

2094. Would you propose to ear-mark those who never could instruct?—Oh, certainly; that could be done at once in the inspection.

2095. Suppose under the present conditions—of course you are now dealing with male and female teachers rather up in years—but suppose under this new condition of things, when the local authorities and the training colleges came forward year by year with a large batch of younger teachers to put under your instruction, what would you suggest as a proper course to go through, both as to time and matter?—For the actual teachers themselves?

2096. Yes.—I take it they are about from sixteen to eighteen years of age.

2097. They would be older than that—from eighteen to twenty-two?—I talk from a military point of view—very much the course that we teach in the military gymnasia.

2098. A stiff one?—It is not too stiff, sir.

2099. Three hours a week?—Five hours a week is nothing. We have to do five hours a day when we go through our course of six months to qualify for superintendents.

2100. So it would not be too much for them; you would give them a hearty dose of it?—I do not call it a hearty dose at all.

2101. Supposing it were left to you to suggest a course of training for teachers of that kind, to be sent back to the Board Schools competent to teach the children in their charge?—And to give them an hour a day.

2102. The half hour you recommended?—That is the children, I mean.

2103. Suppose you had a free hand, what would you insist on for the teacher; suppose the time was found, and the money was found, what would you say they must go through before you would give them a certificate that they were competent teachers in physical training?—I should say certainly not less than two hours a day for six months.

2104. And you would be rather inclined to give them more?—Certainly.

2105. Then you would give a certificate only to those that you believed were thoroughly competent?—Yes, certainly; everything hangs on that.

2106. What would you do with those who failed?

2107. *Sir Henry Craik.*—You would not give them certificates.

2108. *By Mr Alston.*—You would not allow them to teach.

2109. *Sir Henry Craik.*—That subject.

2110. *By Mr Alston.*—Then those with that certificate would leave your school perfectly competent to teach the children of school age, from the infants upwards?—Yes.

2111. And you recommended rather a standard course of instruction, with certain variations to suit the locality and the state of health and accommodation, and so on?—Yes; but all those teachers, if they go through that course, after six months ought to be thoroughly able to understand when they saw a child, that he was doing too much for his strength, and that should all be taught them in their course. All our non-commissioned officers are able to see a recruit, at once, who is overtaxing himself, and stop him.

2112. That is the medical side of the training?—I say the common-sense side.

Children: morning most suitable time for physical training.

2113. You say that for half an hour every child should be put through physical exercise?—To do them any good.

2114. Have you any preference for any half hour—morning or middle-day?—The morning would be the best.

2115. Before they begin lessons?—Yes; give it about an hour after their breakfasts.

2116. *By the Chairman.*—Not on food; not absolutely on food?—Not on food.

2117. *By Mr Alston.*—Rather the morning than any other half hour?—You get more out of them in the morning. I know personally, from my own experience in work and my own experience with recruits, that one works better at that time of the day.

Supervision of teachers: occasional visits by an expert.

2118. Then as to the subsequent supervision of these competent teachers, would you recommend that an expert should go round at intervals to see that they are working up to the mark?—Certainly; that is the system that we have at present in the army.

2119. *By Mr Fergusson.*—That is to say, that you would look forward to the teachers being able to give the bulk of the instruction, but that every now and then an expert would come round to see that things were all working right?—Yes.

2120. Then as to the system being uniform I rather gathered that your idea was that there should be a uniform system as the foundation, but variation in detail might be allowed?—Yes, sir.

2121. As to the recruits that you get, of course your worst class are what you call 'specials,' I think, but then there is a very large number that do not come up to the standard of specials, who are rejected altogether, that you never see at all?—We do not see, yes.

2122. So you have not very good means of judging of the really bad class, if you never see them?—Those men who are rejected before they reach us have generally got some deformity that will absolutely prevent them being fit for service.

Alloway School: work seen and commended.

2123. You said you had visited Alloway School, and you were pleased with what you saw?—Yes.

2124. Would you mind telling us what you did see; for instance, did you see all the children at drill?—I first went into one room and I saw infants at drill under a mistress.

2125. They were drilled by a mistress?—Drilled by a mistress.

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2127. Was it well done?—Yes, quite, for the size of the children, and it was just the sort of amount that they ought to do. You cannot expect children—I do not think I am wrong in saying they were all about six or seven—to do a lot of complicated exercises.

2128. What was it, was it a sort of tip-toe drill?—Marching on tip-toe, arm bending and arm swinging, quite simple exercises, and just simply taught and instruction given in a way that appealed to the children and not like a drill-sergeant.

2129. Was it done to music?—No, no music.

2130. Then?—Then we went on and saw the elder children at work again under another instructor, also a teacher of the school, and a still senior class under a gymnastic staff-sergeant from the depôt at Ayr—I think I am right in saying that I saw no less than four teachers taking different classes, and they all had evidently a very good foundation on the work, and seemed to know all about the work; in fact, I look on it as what is most to be aimed at, that the teachers can take their own classes in physical training, as there is much difficulty in getting classes told off even for an hour a week; if every teacher could take their own class, then half an hour a day or even a full quarter might be easily arranged; this would be much more advantageous.

2131. I may take it the work you saw generally all through, from the infants upwards, were such exercises as you would approve; it met with your approval altogether?—Yes, quite, and they were in fact founded on the course that we do in the military gymnasium; in fact, the staff-sergeant coming from the depôt at Ayr, had simply taught them to that with slight variations to suit the age and size of the children.

Clothing: boots.

2132. We have been told that there is great difficulty with children doing a lot of these movements, because their boots do not lend themselves to standing on tip-toes and so on?—Yes.

2133. I suppose all your recruits are put into shoes in the gymnasium?—They are; yes.

2134. But do you agree with that, that it is almost impossible to do these exercises properly in a boot?—It makes all the difference, of course. I mean you cannot get a child on to his tip-toes in boots that are two sizes too big for him.

2135. And they are hard and stiff?—And they are hard and stiff, and they do not bend; you cannot get their insteps to work and their ankles to work.

2136. You cannot get the advantages out of the training with these boots?—No.

2137. They have nothing on their feet at all in some schools?—Yes, that would be better.

2138. Bare feet; would that be all right?—I do not see any harm in bare feet except the splinters and nails and that sort of thing.

2139. In the ordinary playground it would be pretty sore on them?—Except in Scotland, where it is the custom to go barefooted.

2140. *By Sir Henry Craik.*—What do the gymnasium shoes cost?—I think somewhere about 1s. 2d., or something like that.

Teachers' class at Cupar.

2141. *By the Hon. Thomas Cochrane.*—I should like to ask you about your experience at Cupar with the class you had there. What sort of physical exercise do they put them through. Is it squad drill, or is it physical exercise?—Well, it was chiefly squad drill, if I remember rightly now without looking up the thing; they had been taught very few exercises, which were not sufficient.

2142. Hardly the kind of physical exercise that you would really recommend for young children?—I remember now that they did do dumb-bells and Indian clubs; but that would not have done for quite the infants.

2143. The toes rise, and all that sort of thing?—Oh, that is all right.

2144. You have seen a model course of exercises?—Yes.

2145. You think that is rather a good one?—Yes; I quite approve of that.

2146. And when you gave advice to these people, were they willing to take it?—Yes.

2147. They were pleased on the whole?—Well, the proof of it was in Cupar the second year I went there.

2148. Much better?—Much better.

2149. Who is Mr Sturrock?—Superintendent of Dundee Public Gymnasium.

2150. *By Sir Henry Craik.*—I think you saw two schools with me, one in Govan and one in Edinburgh?—Yes, I did.

2151. These were rather higher schools?—Yes, exceptions.

2152. And they were very well done?—Yes.

2153. Yes, the Merchant Company's School in Edinburgh and the Govan School?—They were well done, but they were exceptions; I should not like to say that that was the ordinary daily work of the school.

2154. *By Mr Alston.*—But the result of the ordinary daily work?—Yes.

2155. *By Sir Henry Craik.*—I think General Chapman remarked that in the case of the girls in the Merchant Company's Schools in Edinburgh he had seldom seen it so well done?—The thing was beautifully done, sir; and I do not want in the least to disparage the training that they had; but I feel that that was an exception, and it was a thing that was expected to be seen. I mean they knew some months before that they had got to do it.

2156. *By the Hon. Thomas Cochrane.*—You spoke of the great benefit in the army from the system of physical training which we have now?—Yes.

2157. I suppose a great many of the recruits really are a little over fourteen years of age?—That is what I guess sometimes.

2158. Sixteen would be a good average?—Certainly. I should think many of the men who say they are eighteen are sixteen. The usual answer is 'eighteen 'past,' if you want their age.

2159. And it does them a great deal of good, the training you give them?—Oh, there is no doubt about that.

2160. Are there any statistics kept of the development of these boys under training?—Well, we are not supposed to do it.

2161. They are not kept in the gymnasium?—They are kept in the hospital.

2162. I think those would be very interesting to us if we could get any authentic statistics as to physical development.

Teachers' training.

2163. *By Mr Shaw Stewart.*—Referring to the system you recommend for training teachers for two hours a day for six months. Would that include any lectures on physical training?—Well, I think that the two hours a day ought to be actual physical training; I think the lectures ought to be extra. I mean, I put it at two hours a day at the lowest.

2164. But you said, at the end of that time the teacher would be qualified to know when this or that child had done enough, and so on?—Yes.

2165. How would he acquire that knowledge during the course?—By actual observation. If he is going through a course like that, to do it thoroughly he must have children to teach, or at any rate a squad of young people to teach whom he can work so that he sees it.

2166. But I mean, during the six months' course he would not be specially taught to look out for that kind of thing?—Oh, of course while he is actually doing his exercises.

2167. He would not be working the children during that course?—No, not at first; but he would be doing these exercises practically himself; and there is no better way of knowing when you are done than by what you feel yourself.

Recruits: course at depôt improves health and physique: food.

2168. *By Sir Thomas Glen Coats.*—At the end of these three months that the recruits get at the depôt, those who pass through—are they of uniform muscular development?—Some are much better than others.

2169. Do you find that their health generally improves as well as their physical development?—Certainly.

2170. By the physical drill?—Oh, yes. At first one finds that when they get on to proper food and regular work they are inclined to what you may call 'break 'out,' and you see them with spotty faces and all that sort of thing; but that is simply a matter of change of food; it all works off after a bit.

2171. I was going to ask you about food. Do they require to eat more while they are going through this physical training?—You see it very often comes to this: when they join they have been very badly fed before, and the ration which they get when they join is very much more than they have had before, so that in that way it rather works out; but there are some elsewhere I think more food is necessary.

2172. I think you said if not 'special,' though passed by the doctor there was a number of men who were flat-footed and knock-kneed, and, I suppose, the other way too—bowlegged. Well, can you straighten these men's legs?—If the man is still growing.

2173. And for flat-feet—I suppose you can improve them?—Oh, yes; we have a special course for the flat-footed.

2174. *By the Chairman.*—A special course?—We have to make special reports on them.

2175. May I ask your service?—Eight years next month. In 1894 I joined.

2176. Regarding the question that Sir Thomas Glen Coats raised about rations. You said that a recruit never complained, when he came to join, with his dinner ration. I suppose you meant that it was more than he had been accustomed to previously?—I think in many cases it is.

2177. Even the three-quarters of a pound of meat?—Yes.

2178. And what Sir Thomas asked, I think, was whether, in addition to that, he required to supplement it at the canteen. That would be at the canteen, or the regimental institute?—Yes, sir.

2179. From your experience, have you been in depôts?—No.

2180. Never?—No.

2181. Only as an instructor of gymnasia?—I have always been with my regiment before.

2182. But never been at your depôt?—No.

2183. It so happens that you have not been actually there?—Not serving at the depôt.

2184. Therefore you have not served much with the recruits?—No; not until after they have had their three months.

2185. So you can only judge by the gymnastic results?—Yes.

2186. And of course you are not the trainer, but you are the examiner?—Yes; I have to superintend the training.

2187. But in several places?—In several places, but I have recruits absolutely.

2188. You do not watch them from day to day?—Yes, I can, sir; because Glasgow happens to be an Artillery depôt, and the Artillery depôt recruits are trained in the gymnasium.

2189. So you are in a position possibly to give us some information as to the difference, which I do not think you quite answered fully—as to the difference of the food as the physical instruction of a recruit progresses. Do you quite understand what I mean; have you found that although he cannot increase his ration as a rule, as far as I know, he does increase the amount of meat that he gets at the canteen or the institute very largely?—That, of course, I cannot really answer for, because I do not see them outside the gymnasium at present.

2190. That is what I wanted to know; although it is a depôt, you are not sufficiently acquainted with the interior economy of the depôt to be able to tell us?—No; not outside my own department.

2191. Do I understand you to be very much wrapped up in gymnastic work, to the exclusion rather of ordinary drill. There was one remark that fell from you that made me think that you considered gymnastic exercises—I may call them by that general term—I mean that sort of thing—very much superior to ordinary drill?—As far as physical development goes.

2192. Therefore, what I want to get at is what we have to consider. Supposing we were to recommend anything for boys over the age of fourteen, between that and eighteen, you, as our temporary adviser, would recommend us not to recommend anything in the shape of drill as against physical exercise and gymnastic training. What I mean by 'drill' is rather more military drill, handling a rifle, shooting and all that sort of thing; the ultimate object being to improve the physical status of the youth of the country, male and female?—If it is simply to improve the physical status of the youth of the country, I should say that the free gymnastics ought to come before the other. Free gymnastics.

2193. I rather gather, of course, as a specialist?—If that is the only object.

2194. That you are rather tempted in favour of the one as against the other?—I am not against the other in the least, sir, but for actual physical development.

2195. If you are not against the other, and applying that to boys and girls from fourteen to eighteen, what benefits do you think the other would produce; I think I may ask you that. What I mean is a little more of what we understand as military drill, handling a rifle, and shooting and so forth in that sort of way as purely muscular development. I mean its effects not merely physically, but effects with regard to muscular development, and something a little beyond mere physical things; have you got anything to say in favour of that which is not exclusively physical and gymnastic training?—Of course it instils a discipline into them in exactly the same way as the other does.

2196. Not more so; neither more nor less; you think it equivalent?—The ordinary drill, if it is thoroughly done, the ordinary marching drill, barrack square drill, if it is thoroughly done, of course makes men think; but it does not make them think so much as the physical training does, and, of course, the shooting is a most excellent thing.

2197. The shooting?—Oh, yes; that must make a man think, and keep him steady as well. I mean no man can shoot if he is not in proper health.

2198. I very much included extended order drill, you know?—Yes, of course; it is rather going outside the question.

2199. As how?—Is the military drill to be part of a school course or after they have left school?

2200. Why should it not be; I do not say why should it be, but why should it not be?—I do not know why it should not be, but I have heard lots of people say that if military drill is introduced it would not be popular, and all that sort of thing; I mean only the word of the people, that is why I purposely talk about physical training, and not military drill. 'Military' drill: introduction might not be popular; therefore desirable to call it 'physical training.'

2201. Is it the man in the street or the people of Scotland that you have heard that from?—I have heard it in Scotland, sir.

2202. I mean from parents, and what I call that class of people, or from people of your own standing?—More from people who have had to do with the schools, who have heard from the parents.

2203. Do you mean School Boards or the teachers?—Well, I should say more individuals.

2204. *By the Hon. Thomas Cochrane.*—You think they do not want their sons to be made soldiers by stealth?—That is exactly what it is.

2205. A general feeling of that kind?—They have got a sort of impression that it is to save conscription, and that it is a stealthy way of getting at it.

2206. But as far as the physical training of the child, you think they would be very willing to have it taught?—If it is called physical training, and the word military is dropped. I am perfectly certain that they are perfectly satisfied with it.

2207. *By the Chairman.*—Even so far as physical training with arms?—Even with arms, but why not give them a broomstick?

2208. *By the Hon. Thomas Cochrane.*—There is nothing in the physical training with arms that would

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really fit them much more for a soldier's life than ordinary physical training without arms?—A broomstick is just as good, or a bar bell. You can do just as much with it as you can with a 7 lb. rifle, as regards development.

Boys' Brigade.

2209. *By Mr Alston.*—Have you inspected a first-class Boys' Brigade company at Glasgow?—I have inspected one company.

2210. Or seen any of them at work?—I have seen them at work; I have inspected one company.

2211. They do not, of course, drill with broomsticks?—No, they do not; they have got a miniature rifle.

2212. And probably would not thank you to substitute a broomstick for it?—No, they would not. That is a different thing altogether; they are budding soldiers, you may say.

2213. No, but Lord Mansfield has indicated that this military drill might actually form part of school education after school age, beginning during school age and going on after school age; and of course that is an example of what could be done with the boy between twelve and seventeen?—Yes.

2214. *By the Chairman.*—Mr Alston wants to get from you that their condition is not altogether unsatisfactory, although they have military training?—Their condition is perfectly satisfactory. It was only two days ago that I saw General Hunter, and he inspected the whole of the Glasgow Battalion of the Boys' Brigade on Saturday last, and he said it was perfectly marvellous to see them.

2215. *By Mr Alston.*—His report was exceedingly satisfactory?—Yes, very good.

2216. We were talking about uniformity in the Physical Exercise instruction book; here are six; would it not be of advantage to have one uniform code?—That is exactly what I think.

2217. *By Mr Fergusson.*—Do you hear people, School Board people, talk about military drill, as trying to make the boys soldiers and all that sort of thing?—Yes.

2218. You think yourself if the word 'military' was dropped out, it were always called 'physical 'training,' that it would have a good effect?—I think so.

2219. *By Sir Henry Craik.*—But when you say you heard School Board people saying that, can you give me instances?—Well, I can only speak generally.

2220. *By the Chairman.*—The witness is unable to give instances?—Yes; I could not give you definite instances.

The witness withdrew.

Mr E. H. Burrows.

Mr E. H. Burrows, examined.

2221. *By the Chairman.*—You are His Majesty's Inspector of Schools in charge of the Portsmouth District?—Yes.

2222. And have you been so for long?—About seven years.

2223. Were you in charge of a district elsewhere before?—Yes, for twenty-five years.

2224. Where?—First of all, in Yorkshire—the Sheffield district—not in charge, second inspector. Then in charge of South Devon and part of East Cornwall for about seven years; then for some ten years of nearly the whole of Hampshire, and for the last seven years of East Hants and West Sussex, which is called the Portsmouth district, including the country all along the South Downs stretching as far as Arundel and Bognor.

2225. You have got a copy of your notes?—Yes, I have.

2226. Would you go through them, please, for the benefit of the Commission; you can elaborate anything that strikes you on the way?—The notes take the form of a report, written some little time ago, upon the state of physical training in my district, which covers apparently all the ground mentioned in the reference to me, so that I thought it would save time and trouble if I had some copies made for you. May I refer, before I mention the state of affairs in my present district, to that which did take place in my previous district, as you have asked me for my previous history in this matter? I find that, some years ago, I reported on physical training in the district that I then had charge of, which was South Hants, including the Isle of Wight. I have an extract here, which was made from a general report for the year 1894, in which I see it stated that in the district I had charge of, military drill, comprising company and battalion drill, and military and extension motions, was taught then in every boys' school, either by special instructors, or by teachers holding the necessary qualifications. Many schools possessed drum and fife bands to lead the drill, and in all cases, whether in town or country, the movements and exercises were performed with great smartness and steadiness. I also reported at length on musical and Swedish drill as taught in girls' and infants' schools, and upon the general lines of physical education which I had then started for some years before 1894 in South Hants and the Isle of Wight. I also stated that in certain small schools even in those days women were proving themselves equally capable with men in the matter of drill, even for boys as well as for girls. I only mention that in order that I may explain to you that it is now some years back that military drill has formed an important feature of districts under my charge. I left that district about six years ago, and was transferred to the Portsmouth district, where the matter has been still further carried out and developed, and I am able to say that in the district now under my charge, not only in Portsmouth, but in the schools scattered throughout the Downs and the forest country, and all East Hampshire and West Sussex, physical education forms one of the most important parts of the secular education in the schools. In all boys' schools or departments throughout my district some approved form of military or physical drill, with or without arms, generally accompanied by music, is regularly practised, and in all girls' and infants' schools or departments, and in nearly all mixed schools, some kind of physical training, with music, is the rule. This has been the case for many years, long before public interest was aroused in the matter. In a considerable number of boys' schools the drill is purely military, including extension motions and company drill. In other schools physical training based more or less on military methods is adopted. I have not yet proposed a uniform scheme, as it seems best that each school should take its own line, within due limits, so long as the result arrived at is genuine physical and moral training. I have a note to the effect that since this report was written, a model course of physical training for the higher classes in elementary schools has been compiled and issued by the Board of Education. I may perhaps explain that the model course is, of course, an elementary one, and that after the years of practice we have had in my district, we have gone far beyond the limits of that course, but it is readily accepted by all managers and teachers as a foundation, a uniform foundation of their work, and I have pressed that upon them as a necessity, but have of course encouraged them to keep up as additions the various developments which have been carried on with success for some years past both in boys' and girls' schools. I find that in the schools under my inspection there is no subject so popular with children as drill, which is taught during the ordinary school hours. The teachers are unanimous in stating that this training not only produces steadiness, obedience, smartness and concentration, but certainly strengthens and brightens the intellectual power of the scholars. I have had a considerable amount of correspondence from

Historical references.

Existing

Model c

Drill v popular effects.

employers of labour to the effect that they find it of very practical value in the case of boys who receive a course of physical training during their school days, that they make better clerks, and they were better in all respects both morally and physically. Throughout the whole of my district it is now clearly understood that physical training forms one of the most important parts of elementary education. For much of the merely mental instruction is forgotten when the short school days end, but physical and moral training, inseparable if taught aright, will abide by the scholars, and will form the sturdy stuff sorely needed by England and the empire. A display of drill always forms a prominent feature of my annual inspection of all schools, whether large or small, whether in town or country. I may perhaps add that I found physical training or military drill taught hardly at all when I first took charge of Portsmouth district, so that what has been done has been done during the last five or six years. There was hardly any beginning made of it before that. This is a point which I should venture to put before the Commission, because I am inclined to think that Portsmouth is almost unique in its progress. To its importance at the annual inspection, and to the unfailing readiness and enthusiasm with which the subject has been taken up by managers and teachers, I attribute the remarkable progress made since their attention was drawn to it six years ago. Portsmouth set such a zealous and successful example, as was to be expected from the schools of the first naval port of the kingdom. Much of this progress is also due to the energetic formation of School Bands, to lead the exercises and marching. All large schools, and many smaller ones, now possess bands of six to forty performers, using drums and fifes in the boys' and violins in the girls' schools. These bands are composed of teachers of all grades and of elder scholars. The use of these instruments does away with the necessity of costly pianos, and enables the band to be maintained at a trifling expense, and to be moved into the playground to lead open-air drill in fine weather. When I first took charge of the Portsmouth district I found that the Board at Portsmouth, being economical, did not like to face the expenditure upon pianos, and I pointed out to them the strong advisability of some music to lead the drill. I then suggested that if they would pay a little towards the provision of violins and of drums and fifes, they would be distinctly better even than pianos, and far better than the usual worn-out harmonium which is the music in Board Schools. They adopted my suggestion; they gave a small grant of 50*s.* down to each school, which did not go far, but went some way towards providing instruments. All the other instruments wanted for these large bands have been invariably provided by the efforts of the teachers and children. They have collected money by school entertainments, by subscriptions amongst parents, and so on, so that the public, whether subscribers to voluntary schools or ratepayers, have practically had no expense entailed whatsoever by the formation of these large, strong, and efficient bands, and it is to these bands that I really do attribute a large part of the progress we have made with drill. They have been of the greatest possible value to the schools themselves, because they have brought teachers and pupils together. The instruction in the various instruments has been either paid for by the parents of the children or the teachers themselves, assistants and pupil-teachers of all grades, and now that the thing has been established the instruction is practically handed on from the one set to the other after school hours. Recruits are never failing, and the bands keep up to considerable strength there. In the case of children who are playing in the bands, I make it a rule that they should not escape physical drill. They are told off in rotation to go in for the drill, so that they get their fair share as well as leading it with their instruments. Physical or military drill thus practised entails little or no extra outlay, for with few exceptions no special instructors have been employed. To the certificated teachers who have willingly and successfully undertaken the instruction, the highest praise is due. Without their cordial co-operation, success would have been impossible. Many of them are capable of teaching the subject, as they have belonged to the volunteer corps of their training colleges, and in the case of women, very many of them have been fairly well trained in the women's training colleges. Now, I have a few remarks about the necessity of further training for teachers if I am in order in following out that point. I should say that I have not gone so far as my colleague Mr Colvill has in providing classes under military instructors for the teachers hitherto, because it has appeared to me that the young masters who come down to Portsmouth from Winchester and other training colleges, have hitherto been able to produce results in physical training and military drill which have met with approval not only of civilian authorities, such as the managers of schools and myself, but if I may say so, have met with the appreciation of inspecting officers such as Lord Frankfort, who has for three years come down to inspect us at Portsmouth, and of Sir Baker Russell, General in command of our District, and of Colonel Fox, Director of Army Gymnasia, and they have notified to me, as inspecting officers, and to the managers and children, their satisfaction with the exercises as performed by the boys and girls. That, therefore, is my reply to the question as to whether military instructors are required. I can produce drill in Portsmouth which has satisfied general officers, who have seen it, without the interposition of military instructors, and I have found that the civilian teachers of our elementary schools are, so far as my experience goes, somewhat against the interference of a sergeant on their drill grounds or playgrounds, and much prefer having the instruction in physical training entrusted to them, but are perfectly willing to accept any further instruction for themselves that may be required, and I think they would be ready at any moment to attend classes opened for them to improve them further under military instructors to be obtained from the local gymnasium or not as the case might be. The chief difficulty with reference to definite instruction from experts that I have felt hitherto has been that of women, because, although the training colleges for the men in England have provided a certain amount of very fairly satisfactory drill instructors, the colleges for women, judging from results, have not been equally successful. Some few training colleges have taken the matter up, but some, apparently, still neglect it, and it is much more difficult to find women capable of teaching drill satisfactorily in girls' schools than it is men, and I am now hoping to get some advice as to opening classes for women teachers under some expert who can come and give them instruction in Portsmouth. I think that is the next move that we really require. I have added a remark as to the necessity of these teachers that have done so well in the schools that I have mentioned to you, getting some kind of recognition or form of certificate as to their proficiency, and I ventured to make a remark to that effect in an appendix which appeared in the last Report of the Lads' Drill Association. It seemed to me that the zealous desire of teachers to qualify themselves as instructors of physical training should receive official encouragement by the issue of certificates of proficiency after examination by experts. I have not dealt with the matter as to how these certificates should be issued, whether by the Board of Education and the War Office together or by the General commanding the District. They would then, in my opinion, be better qualified than military instructors to teach drill to boys under fourteen years of age. That concludes the evidence that I have to put before the Commission, with the exception of the fact—and I think it may be rather an interesting one—that, as regards my district, I may say that I have had the most unanimous support with reference to physical training from every kind of school authority, whether managers or teachers. I have put down here a list of persons to whom reference on physical training in elementary schools is

Teachers: highly praised for energy: necessity for further training.

Military instructors not required

Female teachers.

Teachers should be granted certificates of proficiency

Mr E. H. Burrows.

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suggested in my district; and I find it comprises the Roman Catholic Bishop of Portsmouth, the Mayor of Portsmouth, the Chairman of the Portsmouth School Board, who is a leading Baptist minister of the town—one of the councillors, various clergy, and all the teachers. Practically, they are all ready to express their appreciation of what has been done; and not only teachers in Portsmouth, but I have put down here a large number of managers and teachers in smaller schools in the neighbourhood, for the feeling of approbation of the subject is absolutely universal. I have not had the slightest trace of opposition, or of neglect, or desire to put it aside, or a single instance of complaint from any parent. Parents have come forward with reference to the formation and the support of the bands; they come forward in supplying little uniforms; the caps, haversacks, belts, and so forth. I think that should be taken as a proof of the parents' desire to support the movement.

No opposition encountered.

2232. *By Professor Ogston.*—Just one question regarding the women teachers. Suppose that you had to advise upon this matter, could you say exactly where you would think it best that the women teachers should be trained, and how they should be trained?—I am afraid my reply must be in the negative. I cannot make up my mind in the least where to get at present satisfactory training for women teachers. I had hope of a solution of the difficulty by applying to the British College of Physical Culture; but I do not find them speak with a certain voice in the matter. There are so many experts belonging to the College that it is very difficult, amidst the rivalry of various systems, to discover any definite means of training teachers provided by the College. I am utterly at a loss at present for finding any kind of central organization which should provide experts to train women, or that could be entrusted with the issue of certificates for them when trained. That seems to me the great want at present that England is suffering from, and too many people, I think partly for that reason, neglect this physical training for the girls, and I find that boys are receiving due attention, whereas the girls are not. I venture to impress on the public in my district that the physical training for the girls is quite as important as it is for the boys. My teachers now are clamouring for further instruction, and I do not know where to get it from.

Female teachers: difficulty of giving them instruction.

2233. *By Sir Henry Craik.*—You spoke, Mr Burrows, of the great advance made in your district during five years. Had you any financial way of encouraging it through the grant?—Some years ago, physical exercises, I think they were called, were vaguely mentioned in our English Code. Then there came—you will forgive me if I am a little uncertain about the dates of the Codes—an entry to the effect that the higher grant for discipline, which was 1s. 6d., as against the lower grant of 1s., would only be paid if some sort of drill were separately performed at the various inspections in schools. To begin with, we had that lever for meeting the subject, but I may say, long before we had that bribe of an extra sixpence, I found the managers and teachers in my old districts were very willing, after consultation and conference and encouragement, to come forward and teach it, for the welfare of the children. They welcomed, of course, the extra sixpence, which I told them, as soon as it was put in our Code, would only be given where the subject had received attention already, to drill that really deserved it; but I may say that the progress made in Portsmouth has been quite as remarkable since the financial chance of getting an extra sixpence has disappeared.

Physical training in Portsmouth: success chiefly due to personal effort.

2234. By personal effort?—I think so.

2235. And you have had the encouragement of manufacturers, you say?—The encouragement of employers of labour, that is to say; in Portsmouth they are not a very large or influential body as they are in the larger northern towns, but such as they are, they have certainly encouraged it.

2236. And the parents and others interested in the school have been prepared voluntarily to subscribe for the band?—They have helped the band.

2237. Then the parents have had no objection to this?—I have had no instance of any complaint made.

2238. Or any fear that it was giving rise to militarism?—None whatever from parents. I had first of all some difficulty with members of the Portsmouth School Board, and one or two other small School Boards in the matter, and I thought that we should have some act of opposition, but I was able to disarm it by dropping all kind of army and military terms and organization, and dwelling upon the necessity for the physical training. As an instance I may quote the present Chairman of the Portsmouth School Board, who is a Baptist minister, is strongly opposed to anything like military spirit, but keenly in favour of the physical training we practise.

2239. About the teachers; have you any teachers' classes in your district at present?—None at present are being held; we instruct the teachers. I am told the mistresses have had some lectures from a lady who came down, but it was not to my knowledge, and she did not apparently prove very satisfactory or know very much more than they knew themselves, so that practically the teachers have got information from their own colleagues who have been lately trained—the younger ones—at men's or women's training colleges.

2240. There is no opportunity in the English Code for having such classes and obtaining grants?—No, we have had no encouragement for that at all.

2241. But if there were such classes, and if an expert visited them and examined them, you think that that might be a basis of issuing a certificate which you desire?—Certainly. I think the teachers, speaking for a large body of them, would appreciate that very much indeed.

2242. Have you in your district any instance of continuation classes for the older scholars which are occupied with this subject?—I had a few, and in one of them, belonging to a large voluntary school in Portsmouth, physical training and drill proved very attractive.

2243. An evening class?—An evening class, but that was the only one that took it up. I am sorry to say our continuation classes have lately almost disappeared in consequence of further official changes, and therefore I cannot speak with much knowledge of continuation schools. Even in Portsmouth now they are dying out.

2244. But such classes would be a very effective way of getting hold of boys between fourteen and eighteen?—Certainly.

2245. And what would be the feeling, as far as you have been able to test it in your district of England, with regard to making the attendance at such classes compulsory?—For all subjects, or only for the physical training?

2246. Well, give your opinion on both?—It has not yet been actively debated, nor has it been before any school authorities or teachers, so far as I know, in any collective meeting; it has only been discussed personally, and I have heard nothing but approbation of any such scheme as would enable the teachers to carry on the physical and moral influence which they now have over boys up to fourteen, between the ages of fourteen and seventeen.

2247. Then without giving an opinion upon whether it is possible, you are quite convinced that it is for the advantage of the boys if it could be done?—If I may say so, and go further, that a great deal of the hard work that has been put into boys in this respect up to fourteen is now too rapidly forgotten between the dangerous ages of fourteen and eighteen. I am finding that by personal experience in the streets of Portsmouth every day. The only remedy for this appears to me to be compulsory service in Cadet Corps, between the ages of fourteen and seventeen.

2248. *By the Chairman.*—In what you have done since 1894, I think you speak?—That report in 1894 said for some years before when I began; I think I may fairly speak for the last fifteen years.

2249. In what you have done have you done it off your own bat or have you done it under the authority

of the Board?—I have had no encouragement; I have had no recognition whatsoever of anything that I did until I happened to write the report, of which you have a copy, which happened to arrive at Whitehall shortly before the Lads' Drill Association drew the attention of the Board of Education to the necessity of something being done for physical training. I was then asked to attend a conference on the subject.

2250. That report was sent in on your own initiative, and was not called for?—Yes, it was one of many; I have reported frequently on the subject.

2251. One of many reports on the same subject?—One of many reports on the same subject. I think my reports have all been pigeon-holed, and I have had no information that they have received any attention at all.

2252. *By Mr Shaw Stewart.*—I did not quite gather from your paper how your military drill, as distinct from physical exercise movements, enters into your scheme?—Well, we have done quite as much military drill as is included in the model course which some of us drew up, and which has been lately issued by the Board of Education, and which includes, as you know, roughly speaking, company drill. We have gone as far, in some large schools, as a certain amount of battalion drill as well, but lately I have found it wise, as I think I said, to keep the drill more physical and less military as regards the elementary school in order to conciliate those who, on account of their own opinions, were opposed to anything really military.

2253. I quite understand, but further than that, do you not consider that physical exercises are more valuable for developing boys than military drill. I may say that we have had one witness, an expert, I may call him, who told us that he thought drill does not make the boy or man think as much as physical drill does; would you agree to that?—I should answer that by saying that I am sure the right thing for a boy is a combination of the two. I should be very sorry to see simply what used to be called 'extension motions,' what we now call free gymnastics and other things, taught only, because I think that the old barrack-yard company drill is of great value in teaching steadiness, obedience, and smartness to boys.

2254. Provided it is properly taught?—Provided it is properly taught and military discipline maintained while it is being done.

2255. But then would you apply that to boys under fourteen or boys over fourteen?—I am speaking only of boys up to fourteen in the day elementary schools.

2256. You would still lay some stress on the importance of company drill?—On the importance of company drill, provided that it is accompanied by a large amount of free gymnastics or physical training. I should not like to see half the time devoted to company drill and half to gymnastics; I think one-third of the time should be given to the old-fashioned drill and the other two-thirds to physical drill.

2257. Would that apply to children who had to walk any distance to school, or are your schools mostly composed of children who have not far to walk?—No; I have many schools, of course, scattered about on the South Downs and in the forest country, in East Hants, where children have to walk a considerable distance, and these are purely rural schools. I have not had any complaint from children who live some distance off. I have generally found, both in body and mind, the distant children are superior to those close by, and they are quite ready to take the drill. I have had no such complaint put before me.

2258. *Mr Ferguson.*—In your schools you seem to do a good deal with music?—Nearly all with music.

2259. Do you think that is a decided advantage?—Distinctly, for many reasons. It increases the interest of the children and of the teachers. It, of course, is a much better way of marking time, to my mind, for children than the old-fashioned singing which the children used to go in for then. I disallow all singing on the part of the children while the drill is going on, of course, for obvious reasons.

2260. Who teaches the children to play instruments?—In Portsmouth it has been very fairly easy, because so many parents themselves play violins and that kind of thing. Many of their fathers have literally taught their own daughters, whether they have been teachers or scholars.

2261. In ordinary country districts?—In ordinary country districts I have always found it possible to find some one who can teach boys the use of drum and fife, or boys can learn playing fifes almost by themselves as they do, and the parents can generally be found in the country to pay for some music master who can give a lesson or two to the teacher and she imparts her knowledge to her colleagues.

2262. This is rather an appalling idea, teaching all the children to play instruments. You do not have to depend much upon public funds for this. You seem to have funds?—I have always found the easiest way to raise money is by a school entertainment, as there is always such a large audience to draw upon. Certainly the School Board of Portsmouth is the only body that gave any money for instrumental music, and they gave 50s. three or four years ago to each school.

Inspection not by experts.

2263. You say you never had any real experts to examine. Your teachers did not like them; general officers inspect, but the general officer need not necessarily be an expert in physical training?—No.

2264. He is in drill, but not in physical training, and you do not have any expert examination?—We have not hitherto had any expert examination of the physical training as given in the schools; because no such expert has been provided for us by the Board of Education. We have made various suggestions, but no suggestion has received any encouragement, and nobody has ever come round as an expert to inspect the physical training. It has always been left in the hands of the local inspector.

2265. But is your own knowledge, your own training in these matters, sufficient to enable you to say that it is a really good training that is being given?—My knowledge of physical training is simply that of a man who has had a good deal of gymnastic and athletic work, both at Eton and at Oxford, and carried it on since in various gymnasia whilst I was a youngster. I have done nothing more in that way. I know nothing more than the average man who has been through it himself.

2266. *By the Chairman.*—Could you advise the Commission as to where they could go to see any; is Aldershot in your district or not?—No; it is not; it belongs to my colleague Mr Colvill, who has been before you. I come in just below Aldershot—South Hants. Petersfield is my northern boundary. Obviously the place for seeing what has been done in my district is Portsmouth, including Gosport.

2267. Supposing we were to go down to see—what time of day ought we to be there?—Well, I may venture to say that we would arrange an exhibition for the Commissioners on any day at almost any hour that suited them. We are well accustomed to it. Sir Henry Craik knows we could get an exhibition up in a very short time.

2268. In the day-time as well as in the evening?—It would suit us better in the day-time, because the children are young; it is not like lads in the continuation schools. We have the use of the Town Hall, and we have a most enthusiastic Mayor.

2269. Would those schools include the Board Schools and the Voluntary Schools?—Yes, we could make a selection for you.

2270. And, may I ask, any Roman Catholic schools?—Two of the Roman Catholic schools are leading features of our exhibition. They are always encouraged by their bishop—the Bishop of Portsmouth; so that we can show you schools of all denominations.

2271. Are you in the habit of brigading these schools, as it were?—No; each school has hitherto come in and drilled as a separate company, with its own teachers and with its own band.

2272. That is very interesting for the purpose of comparison. It would be of interest if we went down, probably?—We can parade for you ten companies,

Mr E. H. Burrows.
2 May '02.

showing ten different schools, ten minutes each, perfectly prepared to march on and march off at a moment's notice. If I may show you a programme of what we did the other day—it is similar to what Sir Henry Craik saw two years ago. We can repeat that programme for you at a day's notice.

2273. *By Sir Henry Craik.*—Do you as a seaport give any attention to the training of boys in nautical subjects?—No; we have done nothing in the way of nautical work yet.

2274. Not swimming or rowing?—No; we have done nothing at all.

Swimming recommended.

2275. *By the Chairman.*—On the point of swimming; have you any opinion on that point as a physical exercise?—I think it is one of the best.

2276. For both sexes?—For both sexes. I encouraged it in the Isle of Wight; and had some quite successful swimming classes there for boys' and girls' schools. That was in years gone by.

2277. These exercises, are they from any particular manual?—No, they are not.

2278. How are they evolved then?—To a large extent from lectures and advice I have given to teachers.

2279. It is really your system?—To a large extent my suggestion.

2280. That is very interesting to know?—And from books, various manuals which I have used; because, as I have ventured to tell you, I have not hitherto, until the model course came up, thought it well to prescribe any special scheme. I have let the teachers go as they pleased, provided they satisfied me as regards the value of the work they showed. Therefore each school has taken up an independent line.

2281. And you have been sole inspector?—Hitherto, I am sorry to say.

2282. But as a matter of fact?—As a matter of fact, yes.

The witness withdrew.

Adjourned.

FIFTH DAY.

Monday, 12th May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Miss FLORA C. STEVENSON, examined.

Miss F. C. Stevenson.
12 May '02.

2283. *By the Chairman.*—You are Chairman of the Edinburgh School Board?—At present I am.

2284. And have you been so since——?—Since the last triannual election.

2285. Two years ago about?—Two years, yes. I have been a member of the Board for twenty-nine years.

2286. Will you please go through the evidence you have prepared?—Since 1873 I have been a member of the Edinburgh School Board, of which I am at present Chairman, and I have taken a deep interest in the development of physical education in the schools under the management of the Board. We have thirty-two schools, of which two have higher grade departments and six advanced departments, in addition to the Royal High School (scheduled as a higher-class school under the Act of 1872), and the St John's Hill Day Industrial School, under the Act of 1893, which is under the control of the Home Office—and is a Truant School. Thirteen of the Board Schools are provided with fully-equipped gymnasia, six are provided with swimming baths. Two of these are rather small, and are used more for purposes of cleanliness than for actual instruction. A seventh swimming bath is in course of erection in connection with the new school at Craiglockhart. Apparatus for physical instruction is provided in all the schools. The amount and kind of instruction varies in different schools. The kinds of instruction embrace gymnastics, calisthenics, military drill, Swedish drill, and in every infant department musical drill is given, the usual kindergarten drill. Gymnastic instruction is given by special instructors appointed by the Board, and by the ordinary class teachers. From the last annual report of the School Work Committee for 1901–1902 I see that in the ordinary schools 8453 boys and 8218 girls (pupils in juvenile, advanced, and higher grade departments) received instruction from the regular gymnastic instructors in addition to what they get from the class teachers. In some of the schools military drill is given to the older boys by the janitors, and many of these are old non-commissioned officers—old soldiers. The time given to physical instruction varies very much in the schools. The subject is now compulsory, as the higher discipline grant depends on physical training being given in the schools, but many teachers grudge the time taken from the ordinary work of the schools, the ordinary school lessons. The Edinburgh Board has always been anxious to encourage this branch of education, and before the Department made it so very prominent in their regulations we had this instruction given, and in 1882 we erected the first gymnasium we had in connection with any of our public schools.

Physical education in Board Schools of Edinburgh: descriptive account.

Gymnasia: swimming baths: apparatus provided.

Instruction; amount and kind.

Swimming is taught by special instructors. From the School Works Committee report, to which I have

already referred, I see that 1349 boys and 521 girls received instruction in swimming during 1900–1901. In regard to the physical instruction of pupil teachers, I regret to find that the number of pupil teachers taking advantage of the gymnastic instruction in the schools has been decreasing. I attribute this to the shortened apprenticeship now allowed, and to the increased requirements necessary for entrance to the Training Colleges and the University. The Board has not seen their way to make attendance at the gymnastic instruction compulsory for the pupil teachers. I understand that training for carrying out physical education is provided in the Training Colleges—but although almost every certificated teacher has this subject on the certificate from the Colleges, I do not find that every teacher is qualified to give it. In some cases where the teacher is an enthusiast, excellent work is done—but it appears to me that the time (so far as I can learn) which is given to the subject in the Training Colleges is not sufficient to ensure proficiency on the part of teachers. Of course I cannot speak with any authority on the subject. My information is gained chiefly from what I have heard from the certificated teachers—particularly the women teachers employed in our schools. Of course the Commission will have opportunity of getting all that information from the managers of the Training Colleges, but that is the impression I have from the inquiry I have made from our teachers. In regard to the evening schools, as this subject will be spoken to specially by two of the teachers in the service of the Board, I need not enlarge on it. Hitherto in the evening schools the subject has not been generally introduced, chiefly, I think, because in the case of backward pupils who had returned to attendance at an evening school after leaving the day school at an early age, all the time has been required for the ordinary subjects of instruction—and we found that in some of the advanced evening schools the young men and young women objected to any interruption to their other studies. Latterly, however, I am glad to say the subject has become more popular. One of the most serious difficulties is the amount of time required; and although school managers have now much greater freedom in regard to the subjects to be taught in the public schools, a non-grant-earning subject which is not compulsory cannot compete with those which can earn high grants. Another difficulty we have, especially in the case of girls, is the prejudice and the objection that parents take to their receiving this kind of instruction. I also consider that the want of a properly-systematized graded course of instruction interferes with the success of much of the physical instructions given in many of the schools throughout the country. I do not think this applies so much to the large town schools as to the schools in the country places. What I mean by that is, I find, on going through the schools, that we have various kinds of instruction being given by teachers who seem left at present pretty much to the freedom of their own will as to the kind of exercises they give. Another great difficulty we have in our very poor schools is the physical condition of the children. They are half-starved and ill-clad. I have found, however, in a recent visit in one of our poorest schools, that boys who, before the raising of the age (by last year's Act) for compulsory attendance at school, would have left school with a labour certificate, to go to work, went through a series of physical exercises with apparently great satisfaction to themselves and to their teachers. Most of these boys were wage earners, being employed before and after school hours. I believe that if they had been prohibited from being employed before and after school hours, there would have been much greater difficulty in getting them to attend school, and the same difficulty in giving them physical exercises, because their underfed condition would have continued. My opinion is that, in the case of those very poor children, too much should not be required from them in the way of physical instruction till they become a little stronger. They improve very much as they go up through the school. In our day industrial school we have a very well equipped gymnasium, and although it is only a very few months since a regular gymnastic instructor was appointed, the boys have made extraordinary progress, and already it has told on the discipline of the school. Before that the drill was given by the janitor of the school. In this school many of the pupils are very much of the same class as those who attend our schools in the poorer districts, but of course they have the advantage of being well fed, because they receive three good meals a day. In regard to the Royal High School, I consider that the physical instruction given there could not very well be improved. There is a splendid gymnasium and swimming bath. There are two specially qualified instructors of gymnastics, fencing, swimming, and drill, and in the case of the High School boys, attendance at these classes is compulsory, unless they are exempted under a medical certificate. The instruction in the gymnasium goes on during all the school day, so that provision is made for every class being taught, and the results of the teaching I consider are admirable. I have very few suggestions to make, but the first is in regard to this subject being made compulsory. Unfortunately, all school managers and teachers and inspectors do not appreciate the necessity for it, and do not realise its educational value. I would suggest that in every scheme of education submitted for approval to the Education Department, this subject should have a place on the time table, and that a graded scheme of instruction for each department of a school should be submitted. By that I mean that the scheme of instruction should be made much more definite than I understand it is at present. The testimony of very many of our most enlightened headmasters is that physical education conduces to better discipline and to better educational results. Another suggestion I would make is that in connection with each school, or group of schools, it would be a great stimulus to interest in physical education if cadet corps were formed. I do not know of any such corps in connection with our Board Schools, but there are corps in connection with some of the secondary schools. Of course I recognize that the Boys' Brigade attracts a great many boys who are still in attendance at school and after they have left school, but I believe it would be of immense advantage if the interest in that corps could be connected with the school in which the boy has been brought up. The cadet corps in connection with Merchiston Castle school has had a most distinguished reputation, and I believe the Commission would receive very valuable information in regard to that corps. For the lads and young men who attend our Board evening schools, I believe that a central public well equipped gymnasium would be an enormous advantage, both for those who come really to study, as well as for those who require to be bribed to come to school by the attractions of games and other recreations. I think that public gymnasiums should be as essential for every town population as public swimming baths. I understand that the municipality in Aberdeen have such a public gymnasium, which is taken advantage of by all classes of the community. There is one important kind of drill which I should like to see introduced into every school, and that is the fire drill which is successfully carried on in the schools of America and in Germany. I cannot speak from anything beyond hearsay knowledge in regard to that drill, but the chief points in it seem to me to be that it enables a school to be emptied rapidly and quietly. There have been great improvements lately in the methods of arranging for the entering and exit of children from schools, but I understand that very special attention is given to these two points of rapidity of movement and great quietness, and all the movements being conducted by means of signals. I read a report—I think it was in the town of Rochester, in the United States—that one school with a population of between 800 and 900 children was emptied within forty seconds owing to the rapidity and the precision of the drill. I think that would be a very

Day industrial school.

Royal High School.

Suggestions: subject should be compulsory.

Cadet corps.

Boys' Brigade: some connection with the school desirable.

Evening schools.

Fire drill.

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excellent thing if it could be introduced into our schools. Then, in conclusion, although it has nothing to do with my work as a member of the School Board, I am Governor of the Edinburgh Royal Blind Asylum and School, and we have recently erected a large gymnasium there for the blind children—boys and girls—who have been now under instruction for about nine months, I think with most excellent results both as regards the health of the children and the discipline. I do not know that I have anything further to say.

Boys and girls: proportion.

2287. *By Sir Henry Craik.*—You mentioned the number of boys and girls who were receiving such instruction. Can you say what proportion that is of the attendance at your schools?—I think about half; we have enrolled in our schools about, I think, 30,000 children. I think this session we have over 33,000.

2288. Then rather more than half?—Rather more than half.

Teachers: certificate of proficiency in physical training desirable.

2289. You spoke of the reasons which have led this instruction to be rather neglected by the pupil teachers; do you think that the increased requirements necessary for entering the Training College is the cause of this?—Yes.

2290. Would you suggest any remedy?—Well, my remedy would be a most drastic one; I would do without pupil teachers altogether.

2291. Well, of course, a good many people agree?—But I think that it would be better if we had still a longer apprenticeship. At present pupil teachers claim a two years' apprenticeship, and our teachers say they require all the time to get them up in the subjects necessary for their examinations. They have so many things added now; they have to take science classes and different kinds of drawing, and so on, which were not formerly necessary.

2292. But would you think it well to count as an element in the competition for entering training colleges their physical instruction?—Yes, certainly; I think it is quite sufficiently important for that.

2293. And in the granting of a certificate to teachers at a later stage, would you also count proficiency in this to be one of the elements?—Certainly.

2294. And require a certificate to that effect as one of his qualifications?—Yes, I think so. Well, it might be rather hard in the case, especially of women, who might be excellent teachers, and yet would not have the physique to go through a very strenuous course of instruction in physical drill.

2295. But I suppose for infants that instruction can be carried on with very little exertion?—For infants, certainly.

2296. You say at one part of your evidence that it is very difficult that a non-grant earning subject, which is not compulsory, should compete with those who can earn such grants; what do you have in your mind when you say that?—Well, I was thinking of the grant for attendance at cookery, or a grant for attendance at woodwork instruction, and so on.

Physical instruction should be compulsory.

2297. But those are the only subjects that we specially pay for?—Those are the only subjects, yes.

2298. Then would you prefer that we should proceed by the method of making physical instruction necessary in the curriculum of every school, or that we should pay specially for it as we do for cookery?—No; I should not like it paid for specially.

2299. Would you like it made a compulsory subject?—Yes, and that it should be more systemized.

Playgrounds: fields for general use.

2300. You speak of a swimming bath and playgrounds; have you attempted in Edinburgh to have any playgrounds which would be common to the schools—any field, I mean?—No, we have not in connection with the public Board Schools. In connection with the Royal High School there are two fields.

2301. That is a higher class school?—Yes; it is a higher class school.

2302. But do you believe it would be within the power of your Board to acquire a field for general use?—I do not think so.

2303. Have you ever taken legal advice on the subject?—No; I think we have the fear of the ratepayers too much before our eyes.

2304. But, legally, I am not aware that any objection has been raised?—I do not know; that is a question I could not answer. To my non-legal mind I should say we had not such a power; we are required to find a certain amount of playground for each school.

2305. It need not be contiguous to the school; I see no reason—nothing in the Act—which would require it to be contiguous to the school?—Possibly not; I never considered the subject, I confess.

2306. But you say the ratepayers acquiesce in your acquiring a playground for the High School?—That is a different thing; the High School has two playing fields, towards the upkeep of which the School Board contributes £100 per annum. One of the fields is at Holyrood, just opposite the Palace, and the use of it is granted by the Crown to the Royal High School. The other field is at Corstorphine, and is rented by the cricket and football clubs of the school; I think we got special leave to make a special contribution to the rent and upkeep of these playgrounds.

2307. You got special leave?—I think so, but I speak under correction.

2308. But you got special leave from the Department?—Well, the payment has been passed by the auditor; it was recognised that the playground really is paid for by the High School Clubs, the High School Athletic Clubs.

2309. But none of the grant-earning schools can claim such a privilege?—No.

2310. Then with regard to feeding, you feel a difficulty as to that; have you any suggestion as to improving matters there?—No, I am afraid not; I do not think that that really is a question for educational authorities, as for the Parish Councils, and——

2311. *By the Chairman.*—Parish Councils?—Yes; I mean that there is a great deal of relief given by the Parish Council to the children of widows, and to children who have a claim on the rates, from the parish, but I do not see that it is a matter which it would be desirable even for School Boards to interfere with. Of course there are a great many philanthropic agencies in most large towns for providing dinners for poor children.

2312. *By Sir Henry Craik.*—But do you think that the School Board might not take the organization of some sort of system of providing, which would be paid for by the pupils?—Well, I hardly like to answer that question in the affirmative. I think School Boards have quite enough to do without undertaking work of that kind.

2313. As to the instruction you would have given to girls, are there any elements that you would bring into that as distinct from the boys?—For girls I like the Swedish drill, which can be given with almost no apparatus at all, and it can be taught in any ordinary class-room, and I think it is a very excellent kind of drill if it is given really by a properly graded system advancing from one stage to another.

2314. Then as a rule the instruction, such as it is at present, is given to the boys and girls separately?—Certainly the instruction given by the gymnastic instructors. The ordinary class drill that is given at the interval of the different classes is given simultaneously by the class teacher both to boys and girls. I refer to the instruction which is given probably at the beginning or the end of each school lesson. The practice varies so much in the schools. In some it is considered important and in others not. It depends greatly on the interest of the headmaster and on the ordinary class teacher whether it is carried out regularly or not.

2315. With regard to the Continuation Classes and the pupils over fourteen, do you conceive that it would be possible to enforce a certain amount of compulsory attendance at these evening classes?—I think it would be difficult to enforce it; but if attendance at a well-equipped central gymnasium were recognized in the scheme of education in advanced continuation schools, I do not think much compulsion would be required. The great difficulty is to fit into the very short hours of the

evening school scheme sufficient time to make any instruction that would be given there very satisfactory.

2316. But you have no doubt that if it were possible to enforce it, it would be for the advantage of many of those youths from fourteen to seventeen?—There is no doubt it would be to their very great advantage.

2317. *By Sir Thomas Coats.*—With regard to the time required for giving physical training to children in Board Schools, do you think the time table ought to be arranged so that they could give, say, half an hour per day, more or less; would you suggest a longer time or a shorter time?—Half an hour each day.

2318. Yes?—I think it would be very desirable if that could be given; but, as I stated, there seem to be so many other subjects that claim attention, and very often we find that the time given depends a good deal upon the value which is attached to this instruction by the inspector. He may claim that longer time shall be given to some other subject, and the headmaster says, 'Yes, but that takes so much off the drill.' Well, he encourages the subject that he thinks is the most important. That really is the difficulty. I quite realise that up to this time school managers and headmasters have not yet fully realised the freedom under which we now work, and I think it will take some time before we fully take advantage of it. I should like to emphasize the fact of the influence which the inspectors have in regard to that. There is a very strong tendency on the part of our teachers to encourage those subjects to which they find individual inspectors attach importance. As to the actual time that should be given, I think half an hour a day would perhaps be excessive; I would rather have a shorter time every day, and then for, say, one hour in the week special instruction in the gymnasium.

2319. Is that in addition?—You see the school day is not a very long one, and there are so many things to be got in, especially in the case of girls. In addition to the boys, they have needlework, drawing is now compulsory for them—it was not formerly; then they have to learn cookery, and they are very much handicapped in regard to that. Then if you were to tack on another half hour a day for physical instruction, I think it would overburden the curriculum of their school day too much. I would rather have more definite instruction, say one day in the week for one hour, and a short course of exercises given by the class teacher for a few minutes every day.

2320. Then do I understand that you would give a short course every day?—Yes, quite short.

2321. And also two hours a week at some special time not during class hours?—Or one hour a week at any rate for set instruction in the gymnasium.

2322. After class hours?—Regular gymnastic instruction not necessarily after class hours; no, I would let it be one of the four hours of secular instruction which is the minimum we are obliged to give in our schools.

2323. You talked of the unwillingness of some parents to allow their children, especially the girls, to take part in this physical training; to what do you ascribe that unwillingness?—They think it is not a fitting thing for girls; they think it is not proper. I have come across several instances of that, especially in regard to the older girls, chiefly with those who probably have come from other schools. With children that have been brought up wholly in our Board Schools, who began this sort of thing in the infant department and have had it all through, there is not the same difficulty, but I found in one of our higher grade schools—I was making inquiry about it—it happened that in the higher classes there were very few of the girls who would take the regular gymnastic instruction simply because there was a strong prejudice on the part of their mothers.

2324. That would be for regular gymnastic exercises, not for the ordinary physical drill?—They object to that; they think it is unsuitable; that is the word they use.

2325. With regard to the teaching of this drill, do you think the teachers in your schools could be so thoroughly trained, or ought to be so thoroughly trained, that they could impart all that is required in the way of drill, or would you bring in special instructors?—Oh, I think there ought to be special instructors, because it seems to me that it is exceedingly important that anybody who gives gymnastic instruction should do so with intelligence, and I do not think it would be possible to leave the whole of the instruction in the hands of the ordinary class teacher.

Instruction: not ordinary teachers but special instructors.

2326. You do not think they could get sufficient instruction to give it?—Some could do it, but I think in the case of teachers in country schools it is especially desirable that they should have sufficient training to give some systematized course of, say, extension exercises; but where you give regular gymnastic instruction I think it is most important that that should be given by fully qualified gymnastic instructors, and there are means of getting such instruction now in large towns, both for men and for women, outside even the instruction given in the training colleges, which, I am afraid, is rather of a perfunctory nature.

2327. *By Mr Alston.*—You say there is another class of objectors, and that is the young men and the young women who object to any interruption of their other studies; they think, I suppose, that the other studies are of more practical use to them?—Certainly; that is so.

Physical exercises: some attraction should be offered.

2328. Then you would require to attract them towards physical drill in order to induce them to take it up?—Yes.

2329. But as we have no compulsion that might be difficult. Could you suggest anything which would attract those men and women to take some part of the time for physical drill?—I would trust more to the force of public opinion in regard to that. I believe that if opportunities were given to them to receive instruction of this kind, not necessarily at the evening schools proper, but, as I said before, in some central gymnasium where they could have the instruction for a sufficiently long period—I mean for, say, an hour at a time or half an hour at a time on one evening in the week—they would not find that such an interruption as if they got it during the usual hours of evening school work.

2330. Would you say that public opinion would also remove the prejudice of those parents who object to physical drill for girls?—Yes, I think so; we find in one or two schools where it is popular with the girls the parents do not make much difficulty, but it is extraordinary the influence that the opinion of one or two people has in discouraging it.

2331. Then I gather from the general tone of the evidence that the teachers in your Edinburgh Board Schools are not so much in favour of teaching physical drill?—Oh, I think they are very much in favour.

Teachers in Edinburgh in favour of physical drill.

2332. There are one or two remarks which seem to point the other way?—I am afraid I have not made it quite clear, what I said really refers to the inequality of the time given to it in the different schools and to the kind of instruction given. All our headmasters, I think, are strongly in favour of it, but they do feel that, in many cases, it is a question whether, to some of those children, especially to those who are backward, it is more important for them to give the time to physical drill or to some other more purely educational subject.

2333. I take these two sentences: 'Many teachers 'grudge the time taken from the ordinary work of the 'schools?'—Yes, that is so.

2334. And the other is: 'I regret to find that the 'number of pupil teachers taking advantage of 'gymnastic instruction in the schools has been de-'pleted?'—That is so, and for the reason I stated, because of the shortened apprenticeship, and also the large number of subjects which they have now to take.

2335. But it would be possible by a rearrangement of the whole school curriculum to get in your physical drill in due proportion?—Yes; I think it would be quite possible.

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2336. And that all these teachers might take their part in instructing them?—If they were qualified.

2337. And they might become qualified under proper expert instructors?—Yes.

Underfed children.

2338. *By Mr Shaw Stewart.*—With regard to the underfed children, you made the remark that they improved wonderfully as they go up in the school—the condition of the children?—Yes.

2339. Would you explain how that comes about; is it because they get better fed as they get older?—I think that is so, and also, that as they get older and are able to work for themselves so far, before and after school hours, they are better fed.

2340. Do you say that they work for themselves?—Yes. Very many of the children in our poorer schools are employed both before and after school hours, therefore I think that if they were prohibited from earning in this way it would be an unfortunate thing for those children so long as the employment is kept within reasonable limits. There is no doubt that as the children go up through the school, being in better air and having a more regulated life altogether, I think they do improve, and improve wonderfully.

2341. That is to say, I suppose, you are speaking of children over twelve?—Well, even before that, even as they go up from the infant school into the juvenile division.

2342. *By Mr M'Crae.*—I think you said there were about 33,000 children attending the Board Schools in Edinburgh?—I think so.

Boys and girls: proportion in attendance.

2343. Can you tell us what proportion there is of girls in that number—just roughly?—I am afraid I cannot without referring; I could send you these statistics more fully in regard to the proportion of the school populations.

2344. I think it might be useful if you could do so?—I think we may say roughly about one-half.

2345. About one-half?—In our advanced and higher grade departments we have a larger proportion of girls, I think, than boys.

2346. So that as far as physical training is concerned I see that the proportion of training given is about equal to boys and girls?—About equal; yes.

2347. So that if it is about one-half, the proportion to the total number of children is just about the same?—Yes.

Instructors in Edinburgh: professional.

2348. Can you tell us how many professional instructors you have in Edinburgh—what you call special instructors, I think?—I think we have six; we have six special instructors, and the instruction in one of the schools is given by one of the ordinary masters who has a special appointment in regard to that; he will give evidence as to that before the Commission—Mr Whitton of Castle Hill School.

2349. That is seven altogether, counting Mr Whitton?—No, there are six, counting Mr Whitton, and then there are in addition the two in the Royal High School, and there are the two instructors in swimming.

2350. So that small number really teaches the 16,000 who receive special instruction given by the instructors?—Yes.

2351. Then can you give us the time really devoted; you said it differs in various schools?—That I cannot give you; I am sorry.

2352. What do you think the average would be?—I could send it in to you; it varies so very much in different schools. In some schools there are more hours a week than another, but I could also send in that—the actual number of hours.

2353. You said that the headmasters present an annual report?—They do; and in that annual report we get expressions of opinion on various subjects, and in this particular report to which I refer there are very strong expressions of appreciation of the value of this kind of instruction on the part of several headmasters.

2354. Well, so far as I can gather, I think in only eight of the thirty-two reports is there any mention of physical training?—I think the reason of that is, the reports from the headmasters as given in the annual report are mere excerpts. It is generally referred to in all the reports.

2355. Then you speak strongly of the want of system?—Yes; that we feel is a very great want—want of system.

2356. Would you be in favour of a uniform course of training?—There are various systems of physical training. I understand some people approve of one and some of others. The one I like is Swedish drill, but I think it would be desirable that whichever system is adopted should be carried on all through.

2357. You do not approve of a suggestion that was given that the various schools send up systems of their own to be approved of by the Education Department?—That is what I would approve of, and that it should be a system. A system having been sanctioned, that should be carried on through the school.

2358. But you do not quite follow me, I think. The suggestion that I referred to was that each school might have a separate system, and that should be sent to the Education Department for approval?—Yes, that is what I mean.

2359. You would not rather favour the idea of a general system which would be applicable to all schools, with perhaps a little latitude in its application?—It would depend, I think, as to the teachers who would be employed in carrying it out. Of course you would have to have all your teachers trained in one particular system in order to carry out a definite, a central system, as I might call it, and we find such variety of training, such as it is, in regard to our teachers.

2360. Have you many female teachers in the Board Schools who can really be said to be qualified instructors?—I cannot tell you what proportion, but there are some who could do it.

2361. With regard to the continuation classes in the evening schools, how many hours are devoted to those classes?—I cannot tell you; Mr Whitton will be able to give you that information.

2362. Here is a matter upon which I think you will be able to give us some information. I think you said that in many cases the children were employed before school hours and after school hours?—Yes, that is so.

2363. Do you think that in Edinburgh there is any interregnum between a child leaving school and getting employment; is there a period, say, of a year or two years during which they are running about wild?—I think there is a period, at least there was formerly. Until this recent Act which enables us to keep them till fourteen years of age there were a great many children who were casually employed. I think there are very few children who when they left school were left absolutely idle; they were employed selling newspapers or matches or carrying milk, things of that sort; I do not think there is any very large proportion who would not be employed in earning money in some sort of way.

2364. Then with regard to those who were employed before and after school hours, does before and after apply to the same children; I mean, are some employed both before and after school hours?—Some are employed before school hours and after school hours.

2365. Does that obtain to any large extent, do you think?—I think it does; I do not think it obtains to such a very large extent as to be an evil in Edinburgh, such as I understand it is in Glasgow. I have come to that conclusion from the report which was got out by the Women's Industrial Council, I think. They made an inquiry, sent out schedules to various of our schools asking for the number of children employed before and after school hours, and the times of their employment; and as far as I could gather from the replies they got, there was a considerable number of children so employed, but there did not seem to me to be a number which would call for any special restriction; and I understand that the mere fact that inquiry was being made had put an end to the over-employment of children in some cases, where undoubtedly they had been employed for quite unreasonable hours.

2366. Then it does not obtain to such an extent, you think, as to interfere with the fitness of the child

to receive physical training during school hours?—I do not think so except in some cases.

2367. You suggested that there might be a central gymnasium provided by the municipality?—Yes. I think that would be a most admirable thing. There was a proposal—possibly you may remember—in regard to that some time ago. It fell through.

2368. Do you not think that you would be keeping hold of the children better if that was really under the Education Authority; would there not be a divided authority if the municipality were providing the gymnasium and looking after it?—I do not think so; you see the gymnasia that would be suitable for teaching boys and girls under fourteen would not be perhaps sufficiently large or the appliances be suitable for older lads and young women.

2369. That system of training would, of course, be entirely divorced from the continuation classes?—Well, it might be part of the scheme for the continuation classes. The Department recognize teaching in connection with these classes not necessarily given in the actual Board Schools. I think that is so, Sir Henry?

2370. *By Sir Henry Craik.*—Yes; certainly.

2371. *By Mr M'Crae.*—Then do you think the municipality provides suitable facilities for outdoor recreation for the children—for outdoor sports?—I think they might do more than they do. There are many gardens, I think, in the city which might, with advantage both to the citizens and to the children, be opened up in various parts of the city. The municipality have applied to the School Board for the use of some of our playgrounds.

2372. Has that been granted?—Under certain restrictions we have granted it, but I do not know whether they have accepted these restrictions.

2373. Does that apply to school days or also to Saturdays?—It applies to every day.

2374. *By Mr Fergusson.*—In your notes you say under the time given to physical drill: 'This also 'varies in different schools. The subject is now 'compulsory, and although the Higher Discipline 'Grant depends on physical training being given 'in the schools, many of the teachers grudge the 'time taken from the ordinary work of the school'?—I confess that sentence is not very clear; it is rather a contradiction.

2375. Do you mean that the inspectors do not pay very much attention to the physical training, and therefore, naturally, the teachers do not pay very much attention to it either?—Well, it depends a good deal on the inspector. For instance, an inspector may object to the amount of time and attention that is paid to nature knowledge or free-arm drawing, and the headmaster may say—'Well, I am afraid we cannot 'give more time to it without taking part of the time 'from physical instruction.'

2376. The matter would be cured if the Department made it clear that they expected more attention given to physical drill?—Yes; that is so.

2377. Then the inspector would give more attention to it, and then the schoolmaster would have to find time somehow?—Yes, that is so.

2378. But is it not within your experience that elementary schools where they have good teachers manage to do a good deal of physical training without any harm to the other work of the school?—Oh, they do; there is no doubt a good deal is done.

2379. Then the curriculum is not really overloaded as we are told sometimes——?—I think hitherto it undoubtedly has been.

2380. Well, but as we are now, are we not very much better than we were?—If we take advantage of the freedom that we have.

2381. There are not very many subjects—reading, writing, arithmetic, history, geography, nature knowledge, drawing?—Free-arm drawing, laundry work, manual instruction, and for girls, sewing, and then if you add on physical drill.

2382. It is not really a heavy list of elementary subjects that?—I think that if this physical instruction is to be carried out satisfactorily there must be some modification of the mere, what I may call the book, instruction as given in our schools.

2383. Then you said: 'I find in our schools where 'the physical instruction is sufficiently given, still the 'other instruction is improved,' which shows that it can be done?—You refer to the ordinary public Board Schools.

2384. Yes, the elementary schools; you will find in some schools the inspector says all the ordinary subjects are very well taught, and the children know them very well, and still that master has found time for adequate physical instruction, which seems to show it can be done if you get the right men to do it?—It can be done, but I think it may be done a little at the expense of the children.

2385. Is there anything you could throw overboard in the present list of subjects. You would not like to cut out reading, writing, arithmetic, geography, history, or drawing, or nature knowledge?—Well, I am not sure about the nature knowledge.

2386. Perhaps not so much in the town; we like it very much in the country?—What I feel is wanted in our ordinary Board School education is that there should be more emphasis placed on the reading, the writing, and the arithmetic.

Instruction given by ordinary teachers supervised by an expert.

2387. Your proposal would be that the ordinary physical instruction should be given by the teachers, supervised by an instructor?—By an expert.

2388. But if it is real gymnastics, then you think that few teachers would be able to cope with that; you would have to have a special teacher?—They would have to have a very special training. I think very often harm is done by this gymnastic instruction being given by people who are not thoroughly competent.

2389. Of course that would be only in the town; you would not expect to find a gymnasium in the ordinary country school?—Oh, no.

Feeding of children: voluntary effort: neglect by parents: suggestions.

2390. I should just like to ask you one or two questions upon the point of the children not being properly fed. Of course you agree that it is a very important matter that children should be as well fed as possible when they come to school?—Of course I agree.

2391. And it is almost impossible to get any good results out of them unless they are fed?—That is so.

2392. Then do you not think that that being so it almost becomes a necessity for the School Board to take some notice of an underfed child and try and deal with it in some way or another?—It is a very difficult question. I still feel that it would be undesirable that the School Board should have power to spend money on feeding children.

2393. Oh, yes, I was not suggesting that?—No.

2394. But do you think that the School Board should direct its attention to trying in other ways. You know you get a child that has obviously not had any breakfast, and there is no probability of its having any dinner; do you not think it would be well that the School Board should try to find out why that child's parents have neglected to feed it?—I think that would be most desirable if there was any possibility of enforcing the duty of feeding his child on a parent, but such power does not exist at present unless they become chargeable—the parents of the child become chargeable to the parish.

2395. I think a parent who does not feed his child can be dealt with now if somebody will report the matter to the proper quarters?—Only in the case where that neglect amounts to cruelty.

2396. Well, no breakfast and no dinner comes pretty near cruelty?—But there is an amount of neglect which falls far short of actual cruelty. I may say that in Edinburgh we have two Societies, there is one with which I have been connected for many years—a voluntary association; we offer the help of our Association to the School Board in the case of children who are ill-clad and ill-fed. These cases are reported to us by the School Board attendance officers and further investigated by our committee, and in respect of promise to attend school, clothing is provided or children and two meals a day in very poor cases, dinner only in cases which are not so clamant, and that is kept

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up by voluntary contributions. The School Board meets us so far that they keep a special register of those children, and the regularity of their attendance during the winter months while these children are being fed is quite beyond that of the ordinary school. We assist children not only in the Board Schools but in the Roman Catholic and other denominational schools.

2400. That is very important; that shows clearly how important it is that the children should be fed?—The difficulty is that we do not get enough money from the public for it; we spend annually between £700 and £800.

2401. Without getting into that part of it, do you not think that if the School Board, say through its compulsory officer, was to inquire into why the child came to school badly fed, if it amounted to cruelty and you could deal with the parent under the existing law, it should be done?—I think it would be very desirable, but I do not see there is any law which can take hold of the ordinary average parent who just keeps his child alive and underfed.

2402. Do you think it desirable that there should be some means of getting at him?—I think it is very desirable that there should be.

2403. If the parent cannot feed the child because the parent has no money, then you think it is a case for the parish; it is a case for out-door relief from the Parish Council?—I am afraid in the most of those cases the evil is due to the neglect of the parent. And it would be extremely difficult to relieve the parent further of his responsibilities; by doing that you might be creating a greater evil in the one case than in the other.

Public gymnasium.

2404. Might I ask you about this public gymnasium. I gather you think the municipality ought to provide a gymnasium; I confess I cannot understand why the municipality should. I think it would be an excellent thing, but I think the municipalities would say it was hardly their business to provide a gymnasium; and that it was for either the educational authorities or the military authorities or somebody else?—Well, they have supplied swimming baths.

2405. Well, yes, an enlightened municipality such as Edinburgh, but I am afraid not many others?—They have done it in Aberdeen, too, with great advantage. My difficulty about the School Board's undertaking more in this way is, as I understand the object of this inquiry is, to find out what would be the best means of continuing this physical education of the children—the young men have gone beyond the reach of the School Board, and while the instruction would be given in connection with continuation schools, the difficulties are such as I have stated.

2406. Then, of course, if the educational authorities were to have their control of the children extended from fourteen to, let us, say, eighteen, and it were made compulsory that a certain course of physical training should be taken, they would have to provide some gymnasium or other place for them to be trained in?—Of course they would; they would have to accept the responsibility of it.

2407. I am not quite sure that the town would see why they should provide it out of the town rates?—It is very much the same thing; it would be the ratepayers.

Weak and underfed children: principally under twelve.

2408. *By Professor Ogston.*—You refer in your evidence to the physically weak condition of many of the children. Have you any idea of whether the proportion of physically weak children is great or small?—I am afraid I cannot give you any figures in regard to it. We have a school population of 46,560 altogether who attend the State-aided schools. Various associations, I think, provide for about 2000 children in the course of the winter with dinners and so on.

2409. That would represent the proportion?—I can only say that that represents the proportion of the children we have funds to provide for, but I do not think it represents the proportion of children to whom it would be a benefit to have such help.

2410. At what ages do you think this underfeeding is greatest; it has been already asked but not quite so closely answered as I should wish; I think you said under twelve?—I think the large proportion of children to whom our society gives dinners are about, I should say, six or seven till about twelve——

2410A. Under twelve?—Yes.

2411. I notice you talk of instructors in the Royal High School who teach gymnastics, fencing, swimming and drill?—Yes.

2412. Are there many of the pupils taught fencing?—A good many of the older boys, I believe.

2413. A fair proportion?—A fair proportion; I do not know how many.

2414. And my next question is, what kind of physical instruction do you find suitable for the Blind Asylum children?—Ordinary gymnastics.

2415. *By the Chairman.*—Free—more than free, applied gymnastics?—Oh, yes; applied gymnastics.

2416. *By Professor Ogston.*—Regarding girls, do you consider that any particular dress is necessary for the instruction of girls in physical training such as you recommend?—Oh, certainly, if they take the regular organised gymnastic instruction, and that possibly is somewhat difficult.

2417. I understood you to say you preferred Swedish drill for girls?—That is for the ordinary class drill which can be given by an ordinary class teacher. That can be given quite satisfactorily by women teachers.

2418. Have you to deal with the provision of instruction for children in any incurable hospital in Edinburgh?—No, I think not.

2419. And do you think that, when you mentioned that the parents of older children objected to physical training, there was any special cause in Edinburgh for this being true?—No, I do not think so; none whatever, just the prejudice on the part of parents.

2420. Does it refer more to girls than to boys?—Certainly, and to the class of parents whose children attend the Board Schools. In the secondary schools for girls there is no objection made at all I think, as far as I understand, on the part of the parents. The question you have asked me reminds me that at first, when we started the very large gymnasium we started in connection with the Stockbridge School in 1882, there was a very strong objection on the part of the parents to the particular dress that the girls were asked to get, but I think that has been overcome in the case of parents who do allow their children to take it.

2421. *By Mr M'Crae.*—Was that on account of expense?—Partly that and partly on account of the dress too.

2422. *By Professor Ogston.*—Are you aware whether in Edinburgh there are any medical men of great influence who object to physical training altogether for girls?—No; I have not heard of that.

2423. And you have heard of none of them who consider that it is overdone at present for girls?—No; I have not heard that. I have heard objections taken to certain games for girls—hockey; I have heard objections to that.

2424. *By the Chairman.*—May I ask, have you any acquaintance with country schools?—Very little. Any schools I know about are in the remote Highlands; very little schools.

2425. Just enough to make it interesting to realise the difference between country schools and town schools?—Yes.

2426. You would say, I presume, that there is no medical inspection of schools and scholars at the present time, at such?—No; I think it is very desirable that there should be.

2427. That is what I want to ask you; do you think so?—I do think so—most desirable.

2428. And especially with the view to anything like a regular system of physical instruction?—Certainly.

2429. Rather more so than before. I mean if you increase your physical instruction so much more, ought you to increase your medical supervision?—I think so. We have no medical supervision at all: the only medical examination we have is in the case of the candidates for pupil-teacher appointments.

2430. And, consequently, not only no medical supervision, but no statistics as to development in any way?—None at all.

2431. I mean height and weight?—No.

2432. And muscular development?—No, nothing of that kind has ever been done, so far as I know, in our Scottish schools, except in one or two of the Roman Catholic Schools in Edinburgh.

2433. You say that underfed children should receive very gentle physical exercise; you leave it solely to the teacher to judge?—One would have to do that.

2434. But you might do worse; I mean, a good teacher should be able to know them?—Oh, I think so.

2435. Provided the thing were allowed not too rigid, and that the licence was given to the teacher to discriminate?—I think any intelligent headmaster would be able to regulate that.

2436. Have you ever thought, in physical instruction, whether it should be given according to the ages of the children, according to the heights of the children, or according to the classes, the grades of the children?—That is one of the practical difficulties.

2437. It would be very inconvenient to have to change your classes?—Very inconvenient indeed, and of course one finds a variety of physique of children in different classes. It would be difficult to organise the instruction to suit the children according to size. You could suit them pretty well very nearly according to age.

2438. It would be a point to have, only physical instruction is a totally different subject?—It would be more satisfactory undoubtedly.

2439. Instead of having it interspersed in the middle of the other instruction?—Yes.

2440. You mentioned that you would be very glad to have a union between Boys' Brigades and schools?—Or some cadet corps; something of the sort.

Cadet Corps and Boys' Brigade.

2441. The only reason I wanted to ask you about the Boys' Brigades is this; you understand that the Boys' Brigade has an essentially religious tendency?—That is the intention, I believe.

2442. I mean, do you think that would be compatible with the union between it and the Board Schools; do you not think there would be difficulties?—I think there might, but I do not believe much in the religious difficulty with regard to the association of children.

2443. Not in Scotland?—No.

Compulsory instruction.

2444. There is just one other thing; you said that there were difficulties in some cases on the part of parents. Supposing you had compulsory instruction either to children under fourteen or to those over fourteen on Saturdays, do you think there would be a tremendous objection?—I am afraid I cannot answer that question.

2445. Do you think there would be?—I have no means of forming an opinion.

2446. I am asking you as one well acquainted not only with children but also with grown-up people?—I have a great belief in the force of public opinion; people get reconciled to new ideas.

2447. But to start with, probably there would be?—I think there would probably be considerable objection.

2448. If there was to be additional instruction given on Saturdays, it would rather relieve the overworked curriculum of other days?—Oh yes; in that view of it I would entirely approve of it.

2449. Although it would go rather against the unfortunate teacher who has had perhaps enough to do during the rest of the week?—Yes, I think the teachers would not like it very much.

The witness withdrew.

Mr S. M. Murray, examined.

2450. *By the Chairman.*—You are headmaster of the Sciennes School, Edinburgh, and Vice-President of the Educational Institute of Scotland?—That is so, my lord.

2451. I think perhaps it would be convenient for you to go through your evidence without my asking you any questions. Any questions we want to ask we will ask afterwards?—I have had experience as a teacher of both country and town schools. I have taught military drill myself, and I have superintended the instruction, both by the ordinary staff and by a skilled instructor. I have also been one of the managers of an advanced continuation evening school in Edinburgh which makes it its purpose to try to attract a certain class of lad who does not attend the excellent system of the Edinburgh School Board, and therefore I have some experience of the value of drill and other forms of physical exercise from that connection. Then as Vice-President of the Educational Institute of Scotland I meet teachers throughout the whole of the country, and know a good deal of the difficulties that these men would experience if they were going to add a new subject or develop the present subject more fully than they have it in the schools. And therefore I claim to speak to some extent for the Scotch teachers in this connection as well. In the following summary I have tried to give an account of the work as it goes on in my own school at present in Edinburgh. Sciennes school was opened in 1892. It accommodates 1520 pupils in 22 classrooms. It has workshop and laboratory—that is, physical and chemical—gymnasium, and swimming bath additional to that. I speak more particularly for the gymnasium just now, a room fifty by thirty by seventeen feet, fitted up with a complete supply of both fixed and movable apparatus of the usual kind. The swimming bath—the water—I am not speaking about the room, but the bath—measures fifty feet by eighteen feet. The deep end is six feet and the shallow end three feet, to suit the different ages of pupils. It contains about 25,000 gallons of water, which is changed at frequent intervals, and we take classes up to thirty-six at one time, the present box accommodation permitting of that. Both gymnasium and swimming bath are in use during the whole year on certain days of the week, at varying times, which I shall give separately; the gymnasium for two days per week for eight hours, and the swimming bath for three days per week for eight hours, inclusive. In physical drill the instruction takes the form of gymnastics and military drill, in the hands of a special visiting Aldershot instructor. The scheme includes three divisions:—

Physical drill: scheme of instruction; instructors.

(1) The use of apparatus (fixed and movable), according to its suitability to the age of pupils.
(2) Free exercises (without apparatus).
(3) Military drill for older pupils, including recruits' drill, turnings, forming fours, etc., marching, all being done at the word of command, without music.

In addition to the instructor we have work done by the ordinary staff mainly in the junior and infant classes, when this work is taken under the supervision of the skilled instructor. The length of the lesson is half an hour for the ordinary pupils, one hour for the oldest pupils. All pupils take the physical lesson unless a medical certificate is given for total exemption. Of course we take the parents' certificate for a temporary exemption. The time is taken off the ordinary school day. Failing a certificate the child is supposed to be able to take it, and, as a matter of fact, we find the exemptions are very few in number indeed. Then, additional lessons are given by the staff at odd times more as recreation lessons than formal lessons in drill. In swimming there is pretty much the same arrangement. Of course the numbers are smaller because the class is a voluntary one. We have a special instructor in swimming

Swimming.

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who gives full instructions both in and out of the water. I do not think there is any special system of swimming practised. The swimming includes, swimming, diving, rescue, and the resuscitation of the apparently drowned. We give instructions to pupils in all these respects. Then I speak of the need of the employment of a skilled instructor. In such a school as Sciennes there is need both of the skilled instructor and of the ordinary class teacher to help and supplement his work, especially in military drill and gymnastics. Such an instructor should be an Aldershot man to begin with, and arrangements should be made for him to visit Aldershot, or, still better, Edinburgh Castle, at frequent intervals, to keep in touch with army methods. Our man went up to Aldershot and came back with the improvements on recent lines, and the school benefited very greatly by this visit of his to headquarters. As to the result of this on the pupils, from long and close observation of classes and of individuals (this applies to both scholars and pupil teachers), I am of opinion that the inclusion of physical exercises, and especially of military drill, in the work of the common school has had results wholly admirable, both as to the direct effects on the physical development and as to its reaction on the general school discipline. The value of absolute, unquestioned obedience to the word of command inculcated in the drill lesson cannot be easily estimated, but greater results might be expected if more time were given to this subject. There are difficulties in the way of that. We still err in attending too much, and especially too prematurely, to the mental development of the pupil; but with the greater freedom as to schemes of work granted in the Code some effort may be expected to redress this unequal balance. I think that in Scotland our traditional system has been too much given to the head, so to speak, to the intellectual development of our pupils, getting up a rather fictitious state of excellence that evaporates too soon after they leave the common school, and we have devoted too little time to the physical part of our education, in order to get up our pupils rather prematurely to a certain intellectual stage. We are away from that now, as I say, because the scheme of work of the school, being very largely in the hands of the teachers and the managers, permits of a more equal division as between the mental and the physical development of the pupil. There are, however, certain obstacles to be removed before you can expect more development—

Class teacher *plus* expert.

Physical training of great value: more development desired.

Obstacles.

(1) The objection of managers to incurring additional expense;

(2) and, very important, the overcrowded state of the curriculum;

(3) and—on this I speak for a good many more teachers than myself—the reluctance of teachers to take in hand an additional subject when they are expected by their School Board and H.M. Inspector to do as much as before in the other subjects of instruction;

(4) the dangers of overburdening the already heavily-weighted pupil.

In other words, if we ask pupils and teacher to do as much in the ordinary subjects of instruction in the same time, there is a danger that we are putting a new burden upon them if we extend this subject further than we do at present. But if the objections of managers are overcome as to expense, and if the overcrowding of the curriculum is modified, then, of course, the other objections would naturally fall to the ground. But I should object to a special grant being given for the inclusion of physical drill in the schools. What is wanted is a block grant of sufficient amount to cover all necessary expenses, both of equipment and teaching. In other words, the scheme of work is all-important with the necessary corollary of freedom in its practical working out. If the teachers and managers prepare a scheme of work for presentation to His Majesty's Inspector of Schools, then it ought to be right that His Majesty's Inspector should inspect the school upon that scheme of work alone. Granting this—I look upon that as an important element—I believe teachers generally would welcome the opportunity of devoting more time to physical instruction. As a teacher who takes a deep interest in the future of his pupils, I have constantly regretted that the admirable foundation laid down in my own day school was only imperfectly, or not at all, followed up in the evening schools.

Suggestions.

The School Board of Edinburgh is making provision—I say, making provision, because it has hitherto been rather imperfectly done—in their system of continuation schools for the teaching of this subject; but objections are taken to it on the ground that it is difficult to find time for it, and also that it is paid at a lower rate than other subjects for which provision is already made in the schools. Now, you may say it is a matter for managers; but, as a matter of fact, in many parts of the country the remuneration of the teacher ultimately—I will not say for the current year—depends upon the amount of grants that the evening continuation school earns, and therefore, if you are asking for the inclusion of a subject paid for at a lower rate, you are asking a pecuniary sacrifice practically from the teacher. That it is popular with pupils I know from practical experience in the working of another continuation school—the 'Fifteen Club' Continuation School—of which I am a manager. A certain type of lad, not wholly admirable and not at all bad, requires to be attracted from the street corner and its incipient hooliganism, and experience shows that one of the most potent agencies is a continuation school, where he gets a generous amount of physical instruction, sandwiched in between smaller, but still useful, courses of mental instruction.

Such a school—nay, many continuation schools—should lead directly to a cadet corps, for which a special equipment grant might well be given.

For lads beyond the age of the day school I would suggest—

(1) Greater provision for this subject in the continuation school on the part of the School Boards, and commensurate grants for the same.

(2) The building and equipment of suitably situated gymnasia, and drill halls for cadet corps, at the expense of the Corporation. That is in Edinburgh only, but that must be modified. There are admirable drill halls that are empty for practically three-fourths of the year. They might be utilized in that way. The Town Council would soon be recouped by the increased sense of law-abidingness in juveniles, and by the decrease of petty offences such as playing football on the streets. Many a breaking of the police laws is due to the lack of other and less harmful outlet for juvenile and even adult energy. In Edinburgh we have got a very complete system of school football that some headmasters are taking considerable exception to. I am one of those who think that it is being overdone at the expense of other and better forms of physical instruction, and, therefore, I have given expression, not only to my own views, but to those of a considerable proportion of the headmasters of Edinburgh on this subject.

While school games have their uses, on account of both their physical and moral effects, they cannot take the place of a proper scheme of physical instruction and military drill in a State-aided day school. In Scotland the only popular game is football—cricket being merely an exotic from across the Border—and there are numerous objections to an undiluted dose of football in a city. I am speaking of the city schools of course.

(1) It is difficult to get ground large enough and suitably near.

(2) Only a few pupils participate at a time, eleven or twenty-two as the case may be. When we have 800 to 1500 lads in one school, that is a very small proportion. And we find the element of competition gets to be so keen between school and school that it is practically narrowed down to the coaching of eleven or fifteen, or thereby, lads in order to show well in competitions. We find

(3) That it is difficult to exercise proper supervision in the presence of excited onlookers.

(4) The attendant circumstances (crowds, their

partisanship, language, etc.) are discouraging to the lads' well-wishers.

(5) The outcome is too often to encourage lads habitually to attend professional football matches as spectators—the worst form of sport by deputy.

In other words, what may be admirable in a school with a private ground has serious drawbacks when taken in earnest in a Scotch common school. For these reasons I do not now encourage school football, although our school team carried off the 'Inspector's Cup' on the first year (1892) of the constitution of the Edinburgh school contests.

In conclusion, speaking as a headmaster interested in all subjects of school instruction, and not prejudiced in favour of one subject more than another, I am, in the interests of the proper development of my pupils both as to mind and body, emphatically in favour of a due and proper proportion of physical instruction, including military drill, in the curriculum of the common school. As head of a staff numbering altogether 47 teachers, and also meeting many teachers elsewhere, I have taken the liberty to jot down a few of the difficulties that I would have in doing more myself and in having my colleagues do more in the country, having regard to the equipment of the teacher himself. As it is impossible for many schools, especially rural schools, to have a special drill instructor, this subject will, in the great majority of cases, fall to the regular certificated staff. The proper and adequate training of such teachers is therefore important. Here, as elsewhere, the outcome of any scheme of instruction will depend on the efficiency of the teaching staff. Then, beginning with the pupil-teachers, I should insist, as I do myself—I have ten pupil-teachers, I may say—that they should (1) participate in the school instruction in this work. Then when such pupil-teachers go to the Training College, (2) all students in training, both University and non-University, and all King's students should take physical exercises and drill (Circular 329). Such training, given without exception to all future teachers, should take to do with the theory as well as the practice of the subject. Then I attach very great importance to the association of a Volunteer company to the training college and therefore to the school, and I should therefore like to see a Volunteer company recruited from the students of every training college and officered by the local training staff, if possible. In one Training College we have that now. (3) A point that must be very difficult in the country—while there should be due recognition of existing certificates, all teachers under forty years of age not already qualified (including all candidates for the Acting Teacher's Certificate) should be required to take qualifying classes under Article 91 (d), this subject being included under the important article of the Code. (4) Special arrangements should be made for the periodic visitation by a certain number of teachers to some important military centre, say Aldershot (or Edinburgh Castle), in order to keep the schools in touch with army methods. (5) In all cases, teachers should, for a time, at least, keep in touch with the Volunteer movement in the district in which they are placed, and if the initial expense of becoming a junior officer were lessened, or if a grant were made to recoup the outlay, it would be well if some of them became officers. There are numerous cases of this already, and the results are promising.

2452. *By Mr M'Crae.*—I think that you are strongly in favour of having a professional instructor to teach the scholars gymnastics?—I am, sir, where the number of pupils would permit that to be done. In a school like my own it could not be done without the professional instructor; it could not be adequately done without him.

2453. Then I suppose at present that department is very much under-staffed so far as the Edinburgh School Board is concerned; you have a very small proportion of professional teachers to the number of scholars to be taught?—I believe that is the case generally. I cannot complain; I have two men, a swimming master and a gymnastic master, for sixteen hours, which, I think, is the maximum number of hours under the School Board; I cannot complain of my share of it at any rate.

2454. Do you think that headmasters generally realise the importance of physical education?—I do not know.

2455. Do you think that is really from a want of knowledge of the importance of it, or is it on account of the system of inspection?—I think, sir, that it is partly due to the permanence of Scotch traditions, as regards the work of the school and the natural conservatism—I am speaking generally—of teachers to take up a new subject. I know it is very marked in other branches of education, and, I believe, as much here as elsewhere.

Uniform system undesirable: reasons.

2456. I suppose you think that we should really have a uniform course of physical training?—Considering that the conditions of school are so varied, I would deprecate any uniform system applicable to the whole of the country. I should think it right that any important School Board or a County Council might have a system suitable to their individual requirements, but I would deprecate any cast iron system applicable to the whole country, and I will tell you why, sir. We have a gymnasium; it would be a pity not to utilise that, but very few schools have a gymnasium. Country School Boards would have a difficulty in getting covered grounds to drill in if the building was not suitable—a small school. Town schools could do that easily, therefore these are objections to a uniform system.

2457. Then you would suggest that each School Board should compile a system of its own, and perhaps submit that system to the educational authorities for sanction?—Certainly, have the same as we have with the other subjects of school instruction; we must practically submit our scheme to His Majesty's Inspector, or to the Department and get approval thereof—drawing, for instance.

2458. Do you think that would be preferable to a scheme that had been very thoroughly considered from a medical standpoint, and otherwise approved of and perhaps variations allowed to the various School Boards?—Well, I should prefer the other method; I should prefer the initiative to come from the local authorities, the general supervision could come from the skilled instructors at headquarters to keep us on the right lines.

Continuation Schools.

2459. With regard to the continuation schools, do you think there would be any difficulty in giving some physical training there?—I do not know. The Continuation Code gives great freedom as to scheme of work, and lads who do not want to take it need not take it, but I think a very much larger proportion of lads would take this if it were offered to them.

Central gymnasium.

2460. What is your opinion of a central gymnasium to be provided, say, by the municipal authorities?—That, I think, would be admirable; I would agree with that.

2461. Would that not rather detach a scholar from the continuation school; I mean you would not have the same power over him, would you?—It would depend altogether on the supervision of those. I should prefer the school to be the unit certainly if the equipment were in the school; but there is a difficulty with buildings frequently, and the equipment that is suitable for lads in the common day school is too small very frequently for the grown-up boys of the continuation school.

2462. But for the purpose of keeping touch with these scholars, it would be much better that they should be under the control of the education authority?—Certainly, I should prefer it.

Casual employment.

2463. Do you find that your scholars leave the school and go to employment, or is there any interregnum between the time of leaving school and getting employment?—Well, sir, if you mean by employment casual employment, there is no interregnum. If you mean settling down to a regular steady apprenticeship, very frequently there is an interregnum.

2464. What do you call casual employment; a message boy, for instance?—A message boy.

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2465. You could hardly call that casual employment?—I should then say there is no interregnum; there is no week passes in which I have not applications from employers to send them suitable lads, and the applications include junior clerkships in the numerous law offices in Edinburgh. I have many applications, and really I could place twice as many lads easily and a far bigger proportion than that, in suitable offices, if I had them. I never take such a letter to a boy. I always wait until the boy wishes to leave school.

2466. However, the difficulty is to get a sufficient number of boys to fill situations, rather than a large number seeking employment?—Emphatically so in Edinburgh.

Aldershot system approved.

2467. *By Mr Fergusson.*—I suppose when you spoke of the teachers going to Aldershot or Edinburgh Castle that means that you are in favour of what is called the Aldershot system?—Certainly.

2468. And I suppose any other depôt where there is a military gymnasium would do just as well as Edinburgh Castle?—Admirably; yes.

Physical exercises *plus* drill.

2469. In a course of physical training which do you think is most important, the physical exercises or the drill?—Well, I should be inclined to differentiate. There comes a time when drill becomes a little more important. I should put physical exercises first in point of age, if I am to differentiate between the two, and drill a little later and more important then, but I deprecate the separation.

2470. But you would begin with not very much of the marching part?—Yes; my impression is that young lads do not appreciate the niceties of movement that make excellent drill; it is looked upon as a bore rather at an early age.

2471. I notice you also talked of military drill, by which I suppose you mean the sort of drill that recruits are taught?—That is so. Yes.

Military drill: no objections heard.

2472. Have you ever found any objections raised to military manœuvres being taught the boys, that it was said that it was trying to teach them to be soldiers?—No, sir.

2473. You never heard that?—No, I never heard that. I may say we had a public exhibition of drill, in the Waverley Market in Edinburgh some time ago. Sir Henry Craik was present at it, and it was highly popular with the average parents in the city. They were only too proud to get their children into the team to take part in it.

2474. I understood you to say, with regard to the system that was to be followed, that you did not wish a hard and fast system set up to be followed?—Certainly not.

Uniform system undesirable.

2475. But the Aldershot system is a hard and fast system?—Yes; but you would have to modify the Aldershot system to your school and to the capabilities of your teachers.

2476. Would it not be very difficult for teachers if there was a different system in different schools? If a teacher went from one school to another he would be rather in a difficulty; and would it not also be difficult for the instructors. An Aldershot man is taught a system, and he has it all at his fingers ends, and would it not be rather difficult for him, instructing and inspecting in a lot of schools where each one was working under a different system?—Well, if you could get every teacher properly qualified under the Aldershot system, I should prefer a uniform system as far as the teacher is concerned, but then he would have to modify his teaching according to the exigencies of his work, his building, and the rest of his staff, and so on.

2477. But these modifications would not amount to very much; the system would be a fixed system?—Well, I should deprecate a fixed system, sir; it is totally contrary to the whole tendency of the Scotch Education Department within recent years, which is to leave the initiative very largely to local requirements, and to give general supervision, and to keep us on right lines; and I am sure you would have less difficulty with teachers and with managers if you followed that course, rather than if you laid down a fairly rigid system—even a better system, it may be—from headquarters.

2478. You spoke of the difficulty of finding time for physical exercises; you spoke of the overcrowded curriculum, but do you think now, under the system as it is to-day in Scotland, you can say in the elementary schools the curriculum is overcrowded. It is full, I grant, but is it overcrowded?—It is full, yes. From my experience, personally, I quite agree that it is not overcrowded. I am a strong believer in what may be called a 'broken time-table,' having as much variety in the work as possible. I do not think that the head work suffers from a large inclusion of physical drill, but you will find that many teachers take an opposite view from that, and they do think they already have too many subjects of instruction, and that some are getting undue prominence, and therefore another subject would meet with objection from their point of view.

2479. Yes, but then do you not think they might take this view of it, if it were put before them, that this extra subject that you are going to put on to them will make all the other subjects very much easier, consequently they will take shorter time; that is an aid to the others?—They will say that that argument has been used before, I am afraid, regarding other subjects.

2480. Supposing you were going to lighten the curriculum, what would you cut out? What is there now in it that you could dispense with?—I would not lighten it from any other subject, but I would spread over a greater number of years the amount of work that we have undertaken in a less number of years. But I say I agree we can do that now under this freedom we get with our scheme of work. But there again, sir, we are hampered by tradition both of the teacher, and the inspectorial tradition, and school managers' tradition, for they object if children are not up to a certain standard at a particular age; they want to know the reason why—both parents and school managers.

2481. But that is not the fault of the curriculum?—No; we do not take advantage, as I say, of our freedom as yet.

2482. You are rather inclined to the belief that the curriculum is just about as good as it can be at present?—Well, I could not suggest anything that would improve it.

2483. You would not like to strike out free arm drawing, would you?—Certainly not; I think free arm drawing has got a future, sir, as well as a present.

2484. With regard to the continuation classes, you say where a boy gets a generous amount of physical instruction sandwiched in with a course of mental instruction, that it is very popular and beneficial. Would you be prepared to make some form of physical instruction between the ages of fourteen and eighteen compulsory?—Yes, I should.

2485. And would you couple that with any other compulsory instruction?—Certainly. I would deprecate any lad going to the continuation school merely for physical instruction, if you mean that.

2846. That is what I wanted to know?—Oh yes; certainly.

2487. Then if you made physical training compulsory, you would have to make some other subject compulsory?—What I should like to see would be that if a school is recognised as a continuation school, physical drill be one of the subjects that must be taken up in the continuation school, but not necessarily the one; emphatically not the only one. And there are difficulties from the point of view of the grants. Just now, as you know, the continuation schools are in three divisions practically.

2488. Yes?—And the grants for the same number of classes—keeping away from special subjects which are paid at higher rates, eliminate these grants—40 pupils in the elementary subjects come to 4s. 2d. as against 2s. 6d. for physical instruction.

2489. That is to say, the physical instruction is paid less than others?—Is paid less, yes.

2490. One question about the gymnasium; you are very much in favour of a public gymnasium in a town, gym

but you say it should be at the expense of the Corporation. Do you not think it is more for the school authorities and the volunteer authorities to combine for a gymnasium than to ask the town to do it?—I have been making some more inquiry about the Volunteer part. I quite agree with that; I would be inclined to modify my evidence so far as to rather suggest the School and the Volunteer hall, than the Corporation separately.

2492. One question about the training of teachers. It is impossible for many schools, especially rural schools, to have a special drill instructor, but why should rural schools not have a special drill instructor, not one for each school but one for a number of schools?—Well, there again, you have so many small School Boards that will not combine practically.

2493. You might make them combine?—If you get the county area teachers not to object.

2494. As a matter of fact it would be much cheaper for them?—Quite so.

2495. We have to pay 5s. an hour for an instructor's services, whereas an instructor if he were taking four schools in a day would not want £1 a day for his work?—Well, I think the line of least resistance would be to employ the teachers.

2496. Oh yes, but I thought you agreed the teachers would do the bulk of the work, but you must have an instructor going round, perhaps once a week, visiting the schools and seeing that the thing was working properly and helping the teachers and supervising the work?—That is what I do with my own instructor in school; he supervises the other teachers.

2497. That is the system you would like to see?—I should like to see it.

2498. *By Mr Alston.*—You remarked, when you were asked by Mr Fergusson whether you would approve of uniformity in the method of giving instruction in physical exercises, that you thought not, and yet, at the same time, you referred to the Aldershot expert who came to inspect. Of course, he is a man who is drilled under a uniform system?—Yes, but our Aldershot instructor modifies his uniform system to suit the equipment and the conditions of the school and its building; and the conditions of schools in equipment are so various that I foresee great difficulties in applying a uniform system to such various conditions.

2499. I think the Commission has been a little puzzled when they have been asking questions about uniform system. We have had upon our table six different books on physical drill; probably these six different books are in use in various schools. Well, we can conceive a course of physical drill, a standard, being laid down once and for all which might be accepted, we will say, by the Education Department, and which all School Boards might be bound to use, giving the teachers at the same time a free hand to adapt it, or parts of it, to their schools; would that not be possible?—No, sir; you would be applying to drill a principle and a method of working in schools which are not found in any other subject of school instruction. I do not think that this Commission could get at finality in regard to the method of drill and instruction in schools to such an extent as would warrant them laying down the law for even any length of time regarding the proper method of instruction in schools.

2500. And yet the law might be laid down by experts, such as medical experts, who can, once and for all, tell you what physical exercises are suitable for different parts of the body?—Well, sir, doctors differ to start with, and in regard to education generally it has been a process of evolution, and the evolution has been in the way of freedom, because I suppose the reason being that the results of freedom are found to be better than those of the cast-iron, that is, the old standard system we have had in schools, and as a teacher I should deprecate and I should expect some failure from your working out in schools a system such as you indicate.

2501. Then would you allow your teachers to search amongst these six books of instruction in physical drill for the one that they liked best?—I should prefer if the Department would, as usual, indicate the general lines upon which they propose to develop this system and leave the school managers, in advice with their teachers, to formulate a scheme in consonance with that of the Department and also to agree with the general lines that the Department would indicate.

2502. You would rather, then, that the teachers in the School Board schools should formulate a scheme of physical instruction and ask the Department to approve of it, rather than that the Department should formulate a scheme and send it down to you?—Certainly.

2503. Well, the War Office in the matter of drill, which is, of course, what is practised in the advanced stage of these physical exercises, lay down a Red Book; that is the Manual which they have laid down for your guidance. You must not depart from that; you may take from it simple formations in preference to more complicated movements, but you abide by the standard laid down. When you do 'right about turn' you must do exactly 'right about turn' as they instruct?—Would it not be possible to get all the methods, general school methods, of doing individual movements to agree to one general standard?

2504. That is the point I desire to bring out; you want a certain freedom in the application?—A certain freedom; very much freedom indeed; the point upon which I see a difference between your army methods and those of the school would be that the conditions under which the various army depôts or instructors go on are absolutely the same; are approximately the same. In schools they would be very various; diametrically opposite almost regarding the equipment and the size of the school and the ability of the teachers to carry through the system. The conditions are so different that you could not apply army methods with a chance of success.

2505. I am supposing that the army practice is the perfect practice, that they have brought it after due consideration to a point of perfection which probably cannot be done in any other school of instruction?—At present, sir.

2506. I am supposing so?—Yes, sir.

2507. Well, one would think that you might safely follow the Aldershot method of instruction in physical drill?—I am an old enough teacher to have seen a good many different standards adopted in schools, and I have seen them very seriously modified in my short time of teaching, and I should deprecate any fairly successful system even at present applied to the schools. I think the true line is freedom, and I cannot say any more, sir.

2508. I think your opinion coincides with a good deal that we have heard from gentlemen of your profession; still it has been a puzzle to the Commission?—Of course I deprecate books; I do not at all believe in books—any publisher's book.

2509. And the Department does not dictate that?—The Department does not dictate that. Take, for example, drawing; it may illustrate the point. There have been numerous changes in drawing recently; the Department have indicated generally upon what line those changes are to move, and they leave me to suggest, through the School Board, to the Department what course of drawing I shall suggest for my particular school. I would suggest that method for drill or any other such subject as you are proposing to do.

2510. *By Mr Shaw Stewart.*—I should like to ask one further question upon this same point, because I think it is a very important point; are you yourself familiar with the Aldershot system?—Generally, but not as to details. I am familiar with it so far as my man is an Aldershot man; he carries through the Aldershot methods.

Teachers; should be trained on one system and given freedom.

2511. Well, would you be in favour of those teachers being trained strictly according to the Aldershot system, and then that each teacher should be left free to modify the training according to his own judgment in his own school, and that the teacher should account to the expert inspector for any modifications that he might introduce into his school; do you follow me?—I do

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follow you quite. Generally, I approve, if you make allowance for existing teachers not being qualified under the Aldershot system at present, and for the fact that many of them are above forty years of age, and would have a difficulty in coming up to that Aldershot standard.

2512. Oh, I quite see that; I was alluding to the future?—For the future, certainly. I am quite at one with you on that.

2513. For the future training of teachers?—And even I would go a good deal with the existing teachers if due allowance is made for the age of present teachers.

Games.

2514. Then I understood you to say that games are not so valuable as physical training?—Quite so, sir, in a city school.

2515. A former witness told us that he thought games are no substitute for physical training, for in games each boy may overdo or underdo his own work, and in physical training each boy gets a systematic training?—That is so, sir.

2516. You agree with that?—I agree with that; and it has this disadvantage, sir, as far as my experience goes it is confined to a few expert lads who get the special training to show in competition.

Grading of children.

2517. Now one question about the grading of children. An expert witness—I think I may call him an expert witness—on physical training told us that in his opinion children must always be graded according to physical strength, and not according to mental attainment, for physical training?—I understand. In theory that is quite right, sir; it will be utterly impossible to apply it in the school.

2518. It would?—It would, yes. You must have some general standard upon which you classify your school, and while all classification is a rough approximation to truth, if you introduce a classification depending, say, upon age alone or upon physical attainment, there would be very great practical difficulties in carrying it out—so great as to make it impossible of attainment.

2519. Well, that agrees with the evidence of the last witness, but we had another witness who told us that in Board Schools he thought it would be feasible?—Well, sir, I disagree strongly.

2520. You do not agree with him?—I do not agree. I have had experience of schools ranging from 100 children to 500, 1000, and 1500, and I can see difficulties in the whole of them, especially in the 1500. You would make drill practically the pivot for the school classification, and that would be an undue preference for drill, with all respect.

2521. I understood the witness who thought it was feasible was of opinion that children would be graded in the school for ordinary lessons according to their mental attainments?—Yes.

2522. But for physical training they would easily fall into different squads and classes according as they had been sized, as it were, beforehand?—Quite so, sir, if you have separate teachers, all qualified, and separate rooms to take the drill in at the same time. That is possible; but the unit for drill instruction must be the class unit of the school—the class unit—and that is only a rough approximation even in mental ability to equality—and not certainly in physical ability. But you get a fair approximation to equality to obviate any great dangers. I would certainly deprecate any separate classification for drill.

2523. You would be content with the mental classification for the physical training?—I should, making allowances as we do at present.

2524. You would rely upon the teacher to make the necessary allowances for each individual child?—Oh yes; otherwise you would be making it a very difficult matter to carry out practically.

Physical exercises, gymnastics and drill.

2525. *By Mr Alston.*—May I ask one more question? On a former occasion we got from a witness a distinction drawn between physical exercises and gymnastics, and drill; the word 'drill' was used somewhat freely, and apparently the moving of the class in file or in fours was called 'drill,' but I think the distinction was drawn, ultimately, that physical exercises meant all those movements with dumb-bells, bar-bells, and extension motions of various kinds with the arm; that gymnastics meant applied gymnastics with apparatus, and that drill properly meant military drill in squad or company formation; do you think that is correct?—I agree that that is generally correct.

2526. And it would follow that the true military drill could be applied only to those past school age or just on the outer margin of school age?—True military drill; but there are certain simple movements in which lads of thirteen or fourteen take great delight, in company marching and so on quite feasible with boys of that age; but I would certainly incline to keep military drill in point of age to the latest part of a lad's school life.

Continuation Classes.

2527. Could that be applied in the continuation classes after the school age?—I think the military drill might take up a more prominent part in the continuation classes than it does at present. Keep in mind again, sir, that the ordinary lad likes the gymnastic apparatus; he is very fond of it.

2528. Then suppose military drill could be made to take a more prominent part in the continuation classes, of course after school age, would it be sufficiently attractive to keep the lads?—No.

2529. It would not in itself?—No, it would not. In these continuation classes of which I am a manager we give the lads boxing as well, and we have a harrier's club on Saturday; we have a swimming club on a special night, for which we get grants under the scheme approved for that particular school, and we find all those things are extremely popular with the lads, not so much the drill part of it, though we take the drill.

Compulsory attendance after school age necessary.

2530. Well, suppose it comes about, as the result of the work of this Commission, that drill is deemed essential among the older boys, would it of necessity involve compulsion after school age before you could get the boys?—Compulsory school attendance.

2531. No, I mean compulsion after school age?—Do you mean compulsion after school age?

2532. Would it involve that before you could get this so-called military drill?—I do not think it should. I do not think it necessarily should do that.

2533. But you say it has not sufficient attraction in itself?—I would deprecate the separation at all of physical exercises from military drill, as applied to any class of school; I think you are making a serious mistake if you call it military drill alone to start with.

2534. You mean after school age?—I mean after school age; if the school is to be the unit, there ought to be a judicious blending of physical exercises and military drill, but not to the exclusion of either.

Uniformity system of teaching should be trained.

2535. *By Sir Henry Craik.*—With regard to this question of uniformity, the Department has, as you say, given much freedom to the schools?—That is so, sir.

2536. And you think by analogy there ought to be the same freedom given in regard to physical exercises?—Yes, sir.

2537. But, of course, at the start of a subject we must rather give more guidance to the schools, do you not think?—Well, sir, we are not at the start of this subject.

2538. You think it sufficiently well developed to allow of the same freedom as any other subjects?—I think so, sir.

2539. Within certain limits, just as, for instance, in regard to spelling, we do not permit phonetic spelling in the schools,—within limits you would allow the same freedom in physical exercises?—Certainly.

2540. But there are other ways of bringing about a certain uniformity, I suppose, if we get teachers subjected to the same sort of preliminary training, and if we have an examination upon which we give certificates, naturally the teachers would come, more or less, to teach according to one system?—That is so.

2541. And you would prefer that uniformity were worked out by the method of uniformity in the training of teachers rather than by laying down a hard and fast rule upon the schools?—Emphatically.

2542. You have been asked questions about getting

time upon the curriculum for this physical exercise, one point has been left out of sight: you have now a longer school life than you had till 1901?—That is now, sir, quite so.

2543. And do you not think that, now that boys have to attend till fourteen, room might not be found for this physical training without displacing any of the other subjects?—That is absolutely my own opinion personally; but I am afraid, sir, you will find objection taken from the point of view of the school manager, who wants lads to pass the merit certificate examination as soon as they can, and get into the advanced department, or the higher grade school, to earn the higher grants that are earnable.

2544. But a certain amount of physical instruction would not do him any harm?—I would not object to it; I quite agree with it.

2545. And there will be a little more time for it?—There will.

2546. Therefore this is a peculiarly appropriate moment to develop anything of that sort, when the school life is being added to?—Certainly.

2547. You speak of taking up this subject in continuation classes, and you speak of the financial difficulty in the fact that it was not paid for as well as other subjects?—That is so.

2548. I presume the expense is not so large as in the other subjects?—In the Edinburgh system, of which I am speaking just now, they are skilled instructors who take it up, and they are paid practically at the same rate as the ordinary assistant teacher who runs the evening school class.

2549. Would you say that, with regard to the special subjects that we are now developing in the continuation classes?—No, sir; I am speaking just now about the elementary subjects.

2550. Very well; then you mean the subjects that they have under Division I. of the Continuation Class Code?—That is so.

2551. The payment in these classes under Division I. is not so very much differentiated from the physical instruction classes under Division IV.?—As 3 is to 5, sir—30d. as against 50d.

2552. But you do not wish that we should pay for the physical instruction at the same rate as we pay for advanced subjects under Division II. or Division III.?—Oh, no; that is quite apart from that.

2553. Then you spoke of football as one of the games which you were inclined to discourage. Are there any other games that you think might take its place?—No.

2554. You never have had any revival amongst the schools you have seen of the old game of 'Prisoners' Base' or games of that sort?—No.

2555. It would hardly be possible in a town schoool?—No, it would not be possible. It is a very hard life that a boy lives in town; he is not allowed to play in the street, and in the public parks in Edinburgh his games are very circumscribed, and the places in which he could play these circumscribed games are also very small.

2556. Have you ever turned your attention to Article 24 of the Code?—By number I cannot recall it.

2557. Article 24, by which it is allowed to take outdoor lessons?—Yes, we do that.

2558. To a large number of scholars on the Saturday afternoon?—Yes.

2559. Well, do you not think it might be possible to take some of your scholars under proper supervision on a Saturday afternoon and, counting it as a school attendance, to put them through some good physical exercises, either military drill or a thoroughly good game?—Certainly; these are the lines upon which development might be expected.

2560. But you have never attempted to develop it under this article?—We have visits to the museum and the country walks, but not the games.

2561. Yes, but you understand the visits to the museum are not so profitable, because you cannot have more than eighteen scholars, but you could take all the scholars in Edinburgh and join them together and count an attendance for every scholar, on the Braid Hills we will say, on a Saturday afternoon?—But then again would that amount to very much in the point of money? because you increase the number of possible school attendances upon which your block grant is paid. I am afraid the outcome in money would be very little from the financial point of view, never mind the educational just now.

2562. Why would it not pay as much as any other attendance?—Well, while you are increasing the number of attendances, you are increasing the number of school openings *pari passu* but no more, and when you divide to get your average at the end of the year it will come out pretty much the same if you have fifty boys in school and you are open 410 times, or if you have fifty boys in school and you are open 420 times; you are increasing your divisor, while you are increasing your number of attendances, and there would be no corresponding financial result for the increased attendance to warrant that.

2563. No; except of course, with a large number of scholars under a comparatively small number of teachers on a Saturday afternoon?—Suppose you take fifty; would the Department approve of fifty going?

2564. I would not disapprove of 500?—Of course that makes a difference. I was thinking of the class teacher.

2565. If they were under proper supervision?—You increase the number of class teachers and the expenses with the numbers commensurate.

Town and country schools: more need of military drill in country: more physical exercises in town.

2566. Well, I need not pursue that; you say you have had experience both in town and in country schools. How do these schools contrast in regard to their need of some development of physical exercises?—Well, in the country the only available place, as a rule, is the school playground, which is sometimes a very unsuitable place for drill from the bad footing very frequently. I agree that that has improved now and is improving. Then military training must be taken at a certain specified time of the time-table, unless you note deviations in the log-book of course which agree to that, but one would be expected to take it as a rule upon that particular day. Weather conditions are very important in the country.

2567. But does not the Department expressly permit deviation on account of that?—I say any deviation can be noted in the log-book.

2568. There is no difficulty?—Teaching drill will be difficult in the schools, for you must alter all arrangements for it.

2569. You understand the Department puts that permission to deviate with mention in the log-book expressly in order to permit of meeting weather conditions?—Yes; but then you see drill is only one of numerous subjects, and it means the total dislocation of the school work for that particular day if it is not taken at the proper time.

2570. But I ask you how you compared the town and the country in regard to the difficulty of this subject?—Well, we are doing much more in the town than in the country.

2571. And where is the need greatest?—The need is greater in the town; oh yes, much greater in the town.

2572. Do you not find that in the country the children want a certain quickening, and perhaps smartening?—Yes; from the point of view of drill they do. I do not know that the drill would do it, because it is rather mental alertness than physical that you want in country children.

2573. But would not the mental alertness come with the drill?—Yes, it would have a beneficial effect; not very great I think, sir, but still it would be on the proper lines.

2574. You have still not given me quite an answer as to whether you think there is more need of the developing of this physical drill in the town or in the country?—I would say, if I might differentiate, that there is more need of military drill in the country, and more need of physical exercise in the town.

2575. *By Sir Thomas Coats.*—In your evidence I

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think you said that you advocated military drill more largely than physical drill for the more advanced pupils in the Board Schools?—Yes.

Physical training: graded course.

2576. And also in the continuation schools. At what age or what standard would you begin to give more military drill in the school?—Yes; I should suggest the last year of school life for the greater proportion of military drill; I would begin it sooner of course, but would keep it as late in the senior school curriculum as possible, give musical drill in the junior classes, free exercises, including the gymnasium, as far as possible in the intermediate stages, and a larger proportion, an increasing larger proportion, of military drill as the time would go on. It would be difficult to state a definite age, but I should suggest the last year of school attendance at the day school.

2577. Then, in the continuation classes, you would still give a very much larger proportion of physical drill than you would of military drill?—I should like to see it a condition of the recognition of every continuation school, sir, that there should be at least a part of the time given up to physical exercises, physical training, to use the words of your Commission, understanding that to include military drill.

2578. Have you thought whether this military drill given in the Board Schools and continued in the evening classes at the continuation schools, might not satisfy or more than satisfy the children with that kind of thing, that they might be less apt to join the Volunteers or go into the army, because they were satisfied with the amount of military drill which they got in the school continuation classes?—Well, sir, they would be tackling a different subject very largely; there would be shooting in the Volunteers and they would be the possessors of a rifle, which counts a great deal with a lad. I think you would have a new set of attractions which would, I think, obviate that danger. That is purely theoretical, of course.

Volunteers

2579. Then there is one other question I would like to ask; you say there should also be a Volunteer company recruited from the students of every training college and officered by local training staff, if possible. Could you get them for, say four years, in a Volunteer company?—Two years, sir.

2580. Two years?—You might get a few for three, but you must take two to be the number of years in training college.

2581. That would not pay, as far as the capitation grant is concerned?—No; I suppose it would not pay. It is run in one of the colleges in Edinburgh, and my colleague, who is an officer in that corps, could tell you better on that; on the general point I agree.

2582. Regarding the new conditions of Volunteering, could the students in the training colleges go into camp for a week once in two years?—Easily; quite easily, and would be delighted. They would get two months' holidays in the summer time.

2583. And these holidays would probably be at the time when a Volunteer Brigade was being formed?—Certainly.

2584. What time of the year is it?—Practically August and September.

2585. That is, of course, later, as you probably know, than we are likely to have any brigades for instruction at the present time?—I am speaking generally; it may be the middle of July, but I think it would correspond with what I am saying. But they get numerous other holidays in the course of the year, holiday weeks and holiday fortnights. It could be arranged quite easily subject to the supervision of the Department, which has practically the management of that in their hands.

Apparatus: use determined by teachers.

2586. *By the Chairman.*—Who settles suitability in schools as to the use of apparatus?—I do.

2587. Why do you do so; because you are supreme?—I am ultimately responsible to the parents of the children and the School Board; somebody must do that.

2588. Do you consider that you are properly able to do so?—Yes.

2589. I want to know whether you think that your previous training, and that of your colleagues, has been such as to warrant you?—I think so.

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2590. It is a very important thing?—Yes; still at the same time I would not say that we are any more skilled in that than we are in the other subjects of school instruction; but, as a matter of fact, school keeping ought to be common-sense to a very large extent.

2591. And any one who has been at it some time ought to be able?—Quite so.

2592. You had previously, you stated, considerable experience in country schools, had you not?—Yes, I had.

Country schools: suggest

2593. I do not think you have quite given us sufficent advice as to how we should carry out our remit as regards country schools?—From my experience I should rather like to see the teachers better trained for the purpose to start with, and those who are imperfectly trained at present to take advantage of the Article 91 (d) classes which, no doubt, will be started in connection with this subject.

2594. But you do admit there are some old, some infirm, some short and stunted teachers who are physically incapable of doing much themselves?—Oh yes, I quite agree with that; special arrangements would have to be made for that. I have done so already.

2595. You would allow anything of that kind could not be allowed to come into the general operation for a great number of years to come?—A considerable number of years to come.

2596. But in any case, where any young teacher was apprenticed, such teacher should be proficient?—Yes.

2597. As regards country schools?—Yes.

2598. Then I think you said you thought drill was more important in country schools than it was in town schools?—Because of the different physical conditions under which boys and girls live in the town.

2599. Not so much physical conditions as mental conditions. You thought their mental conditions would be improved by a little rubbing up in drill?—Yes, but I do not attach very much importance to that, as I think the country boy is pretty much on the same level of intelligence as the town boy.

2600. In Scotland?—In Scotland except in the matter of expression; and that does not count for a great deal. I deprecate the idea that the town boy in Scotland is smarter than the country boy.

Inspe

2601. Well, you referred incidentally to the inspections; of course, inspections made nowadays of schools are haphazard. I will not say they are not scientific, to use Lord Beaconsfield's term—the time the inspection is made?—That is not my experience.

2602. You know exactly when your inspection is coming on?—Well, I know that this last year I had Dr. Stewart.

2603. I do not want you to give yourself away?—I had Dr. Stewart three days in the school, and you could see the result to be pretty much the same as before so far as thoroughness is concerned.

2604. When I asked you about its being haphazard, you said no, it was not haphazard?—No, certainly not.

2605. The inspection is not haphazard?—It is a much more thorough inspection as to methods, and much more valuable from the point of view of the teacher than it was before.

2606. That is all very well as to intellectual subjects, but does that apply to physical training, that is what I want to know?—Even more so, because an inspector coming into a school on a show day—take the parade day, the annual examination day—he would not have time to see more than two or three classes that would be got up to a fictitious stage of perfection, whereas, coming upon the present system, taking it at its best, coming in, say, three times per year at unspecified times, he sees the work going on under the actual conditions, and I should think it is far more thorough under the present system than before.

Grad of class

2607. You were asked a question as to how your would grade classes for physical training, and I think

you said it must be done by the classes as they stood educationally?—I think so.

2609. And not as regards age, size, or anything else?—Or physical development.

2610. I mean for general convenience?—For general convenience.

2611. The practical work ability of the school?—Quite so; I am very strong indeed upon that point.

2612. Just one more stock question: there is nobody to decide as to the medical state or the statistical condition of pupils in ordinary Board Schools?—There is nobody.

2613. What is your opinion about that; should there be any advance in that direction?—I should like to see an investigation—a medical investigation—at certain periods, of the Edinburgh schools.

2614. I ask you specially with reference to physical training?—I should like to see it. I do it very imperfectly and very unscientifically myself, but I think there is room for careful observation if it were only of one school in a system, either a town school or a city school in each district of Scotland. I would deprecate wholesale investigation; we should only multiply results on parallel lines.

2615. *By Mr Fergusson.*—Might I ask one question about that? You expressed a very strong opinion about the classification; I do not myself quite see what the practical difficulty is. Supposing you put in your time-table that at three o'clock on Wednesday the whole school is to take physical exercises. When three o'clock comes, why should not the children be all taken out of the classes they are in, and re-classified for physical training?—Taken out—where to? Would you continue, sir? Would you have your drill, excuse the question, in the school or outside?

2616. Oh, outside if you can, but anywhere, wherever they are going to be put through their physical training?—It presupposes a simple condition of the time-table that would be very difficult to work with to start at the beginning.

2617. Would it?—It would, and in the second place it presupposes that all your teachers are equally qualified to take drill in the playground; it would not be in the school, because the school building as a rule is very unsuitable for that. Take Edinburgh, now for example, where we have a special sewing staff, and I have to make the sewing instruction the pivot of many arrangements in the school in order to employ my special sewing staff. I have a gymnastic instructor coming at certain times, a swimming master, a singing master, a woodwork instructor, and all these would have to be turned adrift from three to four on that particular day, men and women, because they could not teach and were not expected to teach drill in the school, and you would make a very difficult practical complication of the time-table in trying to do it. The game would not be worth the candle, sir.

2618. But still, I suppose, it would be a good thing if you could do it; you might allow schools to do it, if it could be so arranged; you would have no objection to them being classified if it does not upset the other arrangements?—Quite so, sir; but I do not see any benefit to be got from it. From seven to fourteen years of age my experience is that children are fairly equal in physical development.

2619. It is done, is it not, at least there is an Article in the Code, Article 19, which provides for varying the classification in other subjects; the Code suggests that the classification should be such as to afford due opportunity for promotion, that a child's reading should not be made dependent on proficiency in, for example, arithmetic. That in practice, I suppose, is difficult to carry out?—It is difficult to carry out. You, sir, are introducing a double classification. In a big school you classify, horizontally, according to age and attainment shown; if you also classify perpendicularly according to special subjects, it would be an insurmountable difficulty.

2620. But you do not think, if you could carry it out, there is much practical advantage in it?—No, sir; you would be making difficulties without any commensurate result.

The witness withdrew.

Mr Kenneth Whitton, examined.

2621. *The Chairman.*—You have been kind enough to give us these remarks, would you go through them, please, for the benefit of the Commissioners?—To begin with, I say, I am conversant with athletic sports. I have practised them nearly all my life, and at the present time I am president of the Scottish Amateur Athletic Association and lieutenant in the College Company of the 4th V.B. Royal Scots. I teach physical exercises in Castle Hill School. I am the only assistant master in Edinburgh that does that. The rest of the work is done by drill instructors. The Board asked me to take it, because I have specialized in that kind of work. I am head teacher of the North Canongate Continuation Classes for girls, and assistant master in the Castle Hill School, Edinburgh. I have given here briefly the physical exercises that we give, because I believe that there should be a gradual development, from the very simple exercises to begin with, until we finish up with some military drill in the upper standards. I am very strongly of opinion that military drill should be taught in the upper classes. The bayonet exercises, manual and firing exercises, marching and turning, should, I think, be made compulsory in the highest class in the day school, and I lay stress upon physical exercise, for I do not believe it is intended primarily to make strong pupils stronger, but to make the weakly ones fit for the battle of life, and the course of exercises that I have adopted, I think, tends towards that. I also lay stress upon musical drill. Drill is, I think, to a very great extent recreative. By drill I mean physical exercises; not military drill really, but physical exercises with Swedish drill, and all done to music.

2622. Drill to music in the ordinary term. Does it not rather strike you as a march past to a tune? In the strict sense of the word, drill with music?—Military drill is done now very largely to music.

2623. Physical training?—Well, bayonet exercise, which is, of course, part of the military drill, is done very often to music.

2624. *By Mr Alston.*—And the manual drill?—And the manual drill; all physical exercises, of course, in the army. I believe very thoroughly in musical drill. Then, with regard to drill instructors also, they should be well educated men as a rule, and gentlemanly in their manner. Sometimes the effect might be that they might introduce, perhaps, a little hard discipline with regard to children, by introducing the army system. With regard to gymnasia, I think that there should be no gymnastics given to children until they had passed fourteen years of age. That should be done in advanced departments or higher grade schools.

Physical exercises for children up to fourteen.

2625. *By the Chairman.*—Any kind; free or applied?—I mean physical exercises, pure and simple, with dumb-bells and Indian clubs. That is all that is necessary for children until they reach fourteen years of age. That is my experience, and I have taught it for twelve years. I teach the subject myself in a continuation class. This continuation class is for girls, and I find it is very popular. I give them the option of taking in Division IV. singing or physical exercises, with the result that they nearly all wished to get physical exercise. I taught it myself, and found that they enjoyed it very much. There is one objection, however, to its being popular, I think, in Edinburgh, and that is that it is not paid at the same rate as other subjects. It is paid at the rate of 2s. 6d. per pupil per hour per week; whereas the pupils might be employed in some other subject that would bring in a

Continuation class for girls.

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higher grant, and some teachers are very anxious that they should get a high grant for their evening schools. The result is that perhaps they do not encourage it to such an extent as they might otherwise. The grant is not an element at all with me. What I consider really is the benefit of the pupils. It is such a popular subject. Where my evening school is placed is a very poor locality, though the girls are particularly robust. We probably get a better class of girls to come. They enjoy the exercise very much, and I have sometimes difficulty to get them to leave at the proper time; they wish to take it a little longer, for they enjoy the thing so much. They take it the last half hour on Thursday evening. The evening schools meet on Monday, Tuesday, and Thursday; they take drill on Thursday evening. Another suggestion might be made, viz., to hold central classes for evening school pupils, but they would require to take some subjects in the evening schools. They could hold these central classes in well-equipped gymnasia, with thoroughly competent drill-instructors on Wednesday and Friday. The classes could meet there, and by doing so all might have it; I think it would be the very best system, the central classes, though personally I should be sorry to lose the girls. I am so much interested in the work I would like to teach the girls in the evening school, but I am in favour of the central classes system, and it would have this benefit that it would simplify the organising of the school. We are allowed just half an hour for physical drill in the evening, and no subject can be taken for only half an hour, so that leaves us very often with half an hour that we get no grant for with the result that we have to take a subject, say arithmetic or commercial geography for one and a half hours, so that if the classes for physical exercises were held in a central place that would be obviated. With regard to the facilities in Edinburgh, I think they are very good; where there are gymnasia they are very well equipped, and when we want to get apparatus the Board at once agrees to any requests; they are particularly good in that respect. Then, with regard to physical culture outside schools, I must just make this remark, some schools specialize very much in doing what they can for the development of the pupils. One school I make special mention of here, London Street School. They have got a very good swimming club there, which has been in existence ten years. An annual gala is held, and prizes are presented, and the competition is very keen. They have a very good tennis club for past and present pupils, and they hold matches with other clubs. The great objection in Edinburgh to the continuation of physical education is want of a public gymnasium. There is nothing of this description. There are several private gymnasia that I know of very well, but the fee is almost prohibitive to working lads; if there was a large public gymnasium it would be for the benefit of physical education. I went to visit the chief constable the other day with regard to what was being done, and to get the number of open spaces. In five districts in Edinburgh there are open spaces where swings have been put up for children, and rings, but these are only for very small children; and he tells me that school boys give him very little trouble, except in playing football in the streets. The class who make his acquaintance most are those between fourteen and seventeen who are engaged in factories, and who, after they come out, have nothing to do but loaf about the streets. Well, I advocate for that cadet corps, as I did the other night at a meeting of the Watson's College Athletic Club very strongly. A cadet corps at Watson's College, probably the largest secondary school for boys in Scotland, would be an excellent thing, and I believe the Managers and Head Master are considering the matter. But there should be cadet corps, I think, for all classes of lads, working lads just as well as those in secondary schools. These, I think, should be attached to the Volunteer corps, the Royal Scots or the Queen's Edinburgh in Edinburgh. They should be under thoroughly good drill instructors, the ordinary drill instructors in fact, and after the lads have finished their cadet corps, knowing that they know their work thoroughly well, they could then join the Volunteers without going through the recruit drill, which is the most tedious part, as we all know, of the military drill. I have said a good deal about football, and in connection with that, I say a good deal of football is played in the Edinburgh streets. I have played it myself—not in the streets, but I have played under both codes, Association and Rugby, for many years. I prefer Rugby, but Association is the game that is played in the Board Schools, and I may make a suggestion here which would be for the good of Edinburgh, and especially for that part of the town that I know so well, that the King's Park should be thrown open not only for school boys, but for those lads who make the acquaintance of the Chief Constable—those from 14 to 17. They could come and get rid of their spare energy in the King's Park without getting into mischief and developing into Hooligans in the Cowgate or in the High Street. The King's Park might be opened, say, from 4 o'clock, when the schools get out, until 9 o'clock—4 till 9 in the summer time. This is a very much felt want, and the Chief Constable said he hoped something would be done in that respect—getting the King's Park open. I believe the only objection to it is that only two or three years ago it was ploughed and sown, and they want to let the grass get a grip before they let people on it. But it is very much wanted for the youth of the High Street, Canongate, Cowgate, Abbeyhill, etc. With regard to school football, this is carried on in Edinburgh very successfully. A system of inter-school contests takes place for two cups, one presented by His Majesty's Inspectors, and the other by the Board School Football Association. They do very good work. There are perhaps one or two objections. One is, the matches are over-advertised. The result is, there is an element among the spectators that would be better away. The class I refer to is those who have no connection with the schools and who come for an hour's excitement and gladiatorial display. They are not interested in the sport purely from the physical point of view or for the good of the country. Then a match has lately been played with London, and I can hardly say I am in favour of that, because I think it takes the children away from school, and it also takes them away from home, and the tendency, I daresay, is to make them men before their time, and perhaps give them an undue sense of their own importance; I do not think that is good. I know something of the Training College Company of the 4th Royal Scots, and I would be prepared to answer any questions dealing with that.

Suggestions: central classes.

Existing opportunities in Edinburgh good.

Public gymnasium advocated.

Cadet corps for lads between fourteen and seventeen.

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Games.

2626. *By the Hon. Thomas Cochrane.*—You spoke of some of the children being poorly fed and poorly clad in your district?—That is so.

Ill-fed poorly children.

2627. A large proportion?—A fairly large proportion, I should say.

2628. Do you find that the physical exercises do any harm to any of those children?—Not in the least. I have never had any complaint from any parent that the physical exercises did them any harm. Occasionally I get lines—doctors' lines and lines from parents—stating that the children have been ill, and they would like, for a short time, that the children would get free from their exercises, and I at once give in to that.

2629. In fact, you exercise a wise discretion?—That is so.

2630. And you have no difficulty in exercising it?—Not the slightest.

2631. You can tell pretty well by the look of the child whether it is suited for it?—Pretty well.

2632. And I suppose you make it as interesting as you can?—That is so. I am very fortunate in having the assistance of two ladies who play beautifully. The airs are principally Scotch, and sometimes I get the children who perform these exercises to sing. I consider it is one of the finest chest exercises that children can have.

2633. That was spoken of by medical witnesses, also the great advantage of children shouting and using their lungs?—That is so.

2634. You find that is the same thing?—The same thing.

2635. It has a good effect?—Yes; and I also note the fact that there are very few malingerers: the subject is a popular one. In some cases they want to get away on some excuse. Some bad children do want to get away occasionally, but the cases are rare.

2636. They would rather get away from some other form of lessons than physical drill?—I think so.

2637. I see you have evidently a kindly disposition; you say that everything should be done to make the children happy in the school?—I believe in that very thoroughly. I think they should be as happy in the school as possible.

2638. You find from their general appearance with it has that effect that the physical exercise makes them better in health and therefore happier?—That is so; they are always very cheery there, and I also note this, the senior girls, when they come to me for drill, will hardly go away out of school unless I give them a march to music. They enjoy it thoroughly, they walk splendidly, and they perform different evolutions, and once they have got that they go away quite happy and delighted. It is not often they want to stay long in the school, but on this special occasion they do.

2639. You have had experience, I see, in Germany and Russia; you have seen the physical training there?—I have travelled a little.

2640. You apply a phrase to Germany and Russia that I have heard in our own country, that "we take our pleasures sadly." You think we take them more happily than they do in Germany and Russia?—I I think we do. Our children have a spice of frolicsomeness and humour in them that is totally wanting in the German child, and I have seen German children with swords and helmets, and faces as long as they could be; there was no suggestion of any fun of any description. That is not my experience of Scotch boys or girls.

2641. Then, I suppose, you do not confine it altogether to the military evolutions; you use more physical training than actual squad drill?—Physical training, yes, with a judicious amount of military drill. Especially in the upper classes I wish to train the boys to go through the manual and firing exercises, so that when those cadet corps come off, as I hope they will, these boys will be able to enter into them and be thoroughly well equipped. I may say also, in the regiment of which I am a member, that many of my former pupils are in the same regiment—the 4th Royal Scots, and they make splendid soldiers. They already have gone through physical development, and they are smart active men, especially in camp. I know them and take special notice of them.

2642. You think there is enough discipline in the ordinary physical exercises to suit children?—Quite.

2643. And it improves them generally in manners and in every other way?—Yes, and especially in implicit obedience. That is one of the great factors in physical training, to make them thoroughly obedient to their employers and everybody whom they come in contact with.

2644. But you find that, after leaving the school, the pupils are obliged to give up their exercises?—Unless they go to the Boys' Brigades and even that is only for a certain class of boy at a certain age. They leave that, and they are probably too small to enter the Volunteers; the result is there is another break there.

2645. And just at that age—from about fourteen to sixteen or seventeen—is the one at which you would prefer to see them employed?—I would distinctly; and a very critical age for boys, I think, when they either become good men or bad men just at that particular time.

2646. The physical training would have a moral as well as a physical effect?—It would.

2647. You spoke of there being excellent gymnasia in Edinburgh, but the fee charged is prohibitive to working lads?—It is.

2648. Could you suggest any way in which that could be overcome?—Well, a public gymnasium. I would suggest that it would be a good thing if the city built one, or some public benefactor.

2649. Some public gymnasium for the use of all schools in Edinburgh?—Well, it would not be necessary for schools; I mean for these lads who have left school, because those who are in school can get a certain amount of physical training.

2650. But would you have a gymnasium for lads over fourteen?—Certainly.

2651. And under eighteen?—Yes.

2652. After that age you think they could provide their own physical exercises?—Well, they would naturally, I think, go into the Volunteer corps, and every Volunteer regiment ought to have a thoroughly well-equipped gymnasium at head-quarters. In our Edinburgh regiment we have not, but the Queen's Edinburgh are having a new place built with a splendid gymnasium. It will require to be a big one, because there are three battalions in the Queen's.

2653. Will that be made available for any boys when it is not being used for volunteers?—It probably might, with the permission of the commanding officer.

2654. With the permission of the commanding officer, and if some contribution were made towards the expense of it?—Yes.

2655. You would throw that out as a suggestion to the Commission?—I would.

Playgrounds: games.

2656. You say that some of the school playgrounds are unsuitable for football?—Quite unsuitable, on account of the fact that they are mostly overlaid with concrete, and if the boy comes down of course the result is bad. It is far better for them to play out in the streets for that matter, and they do play there, but they have got a splendid system of scouting; the boys herald at once the approach of the policeman.

2657. Do they play hockey in the playgrounds on the asphalte?—No; the playgrounds are too small for hockey, but in the country districts it is played. Hockey is the game there; it is called 'shinty,' it is practically the same game.

2658. They can play that on asphalte?—In country districts it is the popular game.

2659. You advocate the opening of the King's Park at Edinburgh; in whose power is the opening or the closing of the park?—The Office of Works.

2660. The Office of Works at Edinburgh?—At Edinburgh.

2661. Have they been approached, do you happen to know?—I believe they have on a former occasion, but not by the School Board. I forget who approached them, but it was refused; but I think a suggestion coming from a Commission such as this would do a great deal to having it opened, and the Chief Constable wishes it, which means that it would be a good thing for the town.

2662. What form of games would you suggest should be played by the children in the King's Park if it were thrown open?—Football.

2663. If His Majesty's Office of Works gave permission to open King's Park what kind of games would you recommend?—Football, cricket, and they would also have an opportunity of training for the annual school sports held at Powderhall.

2664. And could one or more schools meet at a time in the King's Park?—Oh yes; it is a very big park.

Hooliganism.

2665. Is there much Hooliganism in Edinburgh?—Not much; we have got an excellent Chief Constable, a new man who is working on the proper lines.

Teachers and games.

2666. You say credit is due to many masters who sacrifice much of their business time for the advantage of the boys; do they try to teach them games—the masters?—They do. They go with them to the parks that are available, and they explain to them the rules. They show them the proper way to play, and in that way they play very excellent football. As I say, the result of it is that a very strong feeling of friendship springs up between the masters and boys. They look upon them more as personal friends. And they also go to the matches that are played, and do all in their power to induce pupils towards gentlemanly behaviour and also the onlookers.

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2667. Generally you find great advantage from physical training so far as you have seen it in Scotland?—Generally; that is my opinion very strongly.

2668. And there is no fear of it being still further extended with advantage?—My opinion is that it should be very much extended. It is a subject in which I am very deeply interested.

2669. You are a good example of physical training?—I have practised sport for a number of years.

Games.

2670. *By Sir Thomas Coats.*—You were talking about football in Scotland and match playing; does that limit the playing to a certain number in schools, or do you have compulsory playing of football for all boys?—Oh, there is no compulsion; it is purely voluntary, but the best boys are selected. It is a case of the selection of the best. You put the best boys into the team, but they all play almost every day in Edinburgh. Every boy plays football; he will play.

2671. And do they play it systematically; do they play it as a scientific game?—Oh, yes; probably they do not play it with eleven aside in the recognised way, but they have always matches. For example, in the school in which I am, at the back of the Castle, my boys come in and tell me that the 5th beat the 6th to-day by so many goals. They play one standard against another even in the public streets. Of course, we have no playground worth speaking about. There is a playground, but it is immediately below the school; the space is very limited.

Cadet corps: teaching of drill to boys between fourteen and seventeen practicable.

2672. You advocate cadet corps, I think, for taking boys of between fourteen and sixteen or seventeen off the streets?—I do.

2673. Do you not think there would be a practical difficulty in drilling these boys?—I think not.

2674. Of course, as you know, the drill halls belonging to the various volunteer corps are taken up in winter almost entirely for the drill of the corps?—They are.

2675. Could you drill these boys in the summer when the halls are not so much taken up in that way?—Yes; or drill them out in the open air; you know, sir, that there is very little drill supposed to be done now in the drill halls; it is all outdoor exercises.

2676. The setting-up drill?—You must have outpost drill and skirmishing; that cannot be done in the drill hall; in fact, work in the drill hall is tabooed, except for recruits. Manual and firing exercises, and ordinary drill are done in the King's Park; outpost duty is done all in the open air, so that is a thing that would suit those lads.

2677. That is after they have been instructed so far in the hall?—Oh, yes; I think arrangements could be made.

Volunteer corps: no difficulty about the lads joining

2678. Regarding these boys afterwards joining the Volunteer corps, I suppose you know that we have been told that quality and not quantity is what is required nowadays?—That is so.

2679. Would you not have a difficulty in drafting these boys into the Volunteers unless the number of battalions were increased or the number of men increased in these battalions?—I think not. The tendency at the present time is not to have so many recruits as formerly, on account of the fact that going into camp is compulsory, and many who would join the Volunteers will not join it now because they cannot get away from business, and I think that there would be plenty opportunities for these young cadets joining the Volunteer corps, and they would make undoubtedly the best volunteers, because they have been already trained.

2680. So that you think there would be plenty of room?—There would be plenty of room.

2681. Looking at the new conditions forced on Volunteers now of attending camp?—Yes. Of course there are several corps in Edinburgh; Leith one, and the Queen's Edinburgh three battalions, the Royal Scots, and the 9th; plenty of opportunities for them.

2682. You say: 'I am prepared to answer questions 'dealing with the training of the College Company 'of the 4th V.B. Royal Scots'?—Yes.

2683. Would you just give us a little information about that; it would be interesting?—The company is composed of students in the College at the present time, and also a few ex-students who are teaching in the neighbourhood of Edinburgh. We call it the College Company. The captain of the company is the instructor in physical exercises in the Church of Scotland Training College, Mr Macnee. He holds the Aldershot certificate, and knows the subject very thoroughly. They are very well trained, and they get lectures from a physiological point of view. At camp they are a splendid addition to the regiment that we belong to, the 4th, because they are well educated and gentlemanly, and their behaviour is magnificent, and altogether I think it has been one of the best things that has been done for Volunteering in Edinburgh to have this College Corps, were it only for the good they have done in raising the athletic tone among the 4th Royal Scots, which is composed mostly of working lads. To give you an idea of our work, on Friday next we take the train to Hawick, we march about nine miles and stay at a farmhouse, and for the next four days we walk across the borders, across to Otterburn, and then on to Alnmouth, and come back by Flodden Field. Major Watson Armstrong is to give us accommodation, and we finish up on Tuesday night in Sir R. Waldie Griffith's. We are getting his barns, and his stables for the men; we will be very comfortable there. Each of these days we count two drills, because we accustom the men to outpost work, and generally the work that you do on route marches.

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Volunteer College Company.

2684. How long do they remain in this company; is it purely a cadet corps?—It is a Volunteer corps under the same regulations as the ordinary Volunteer.

2685. And earning grant in the ordinary way?—And earning grant in the ordinary way, yes.

2686. How long do you get the men to remain there?—Well, they must be there for two years at least; some, I say, will stay on for any number of years, those who get situations in the city of Edinburgh. Some of our non-commissioned officers are excellent men, and we wish them to stay on. They are employed in schools in town, and they are splendid men.

2687. Have you not a financial difficulty about running this company?—Not in the least.

2688. Two years does not pay for uniform and outfit?—Well, I have heard of no financial difficulty, Of course the corps is part of the regiment, and the regiment supplies the uniform.

2689. They encourage the thing?—They encourage the thing, but we pay our way because the uniforms last more than two years. You do not require to change them very often. We pay our way very well, and we are getting a very handsome grant from the regiment to assist us in this route-marching across the borders.

2690. Then will you go into camp?—We will go into camp. We were at Aldershot last year. It was very popular with the lads; they enjoyed it splendidly. We were a month at Lochcote. It was a splendid thing for them from a health point of view; they have their holidays at that time, and when they were at Lochcote they were paid; it suits them very nicely.

2691. How long were they at Aldershot?—We were there for a week, and we go to Crianlarich for a week. We are not part of the army corps—all army corps lasts for a fortnight.

2692. But you go with your regiment?—We go with our regiment, oh, yes. There is a brigade up at Crianlarich this year. One thing I should like to remark about the Volunteer corps is this, that in country districts there is a great scarcity of getting good officers, men cannot devote the time. Now, I hold these are the men, these young students, many of them University men and gentlemanly men; these are the men who will supply that want. They go to a country district, they become officers there, they make Volunteering popular; and not only do they make Volunteering popular, but they are so well instructed and so well qualified that they can instruct their own pupils in physical training; that is one of the greatest

benefits, I think, of the College Company of the Royal Scots.

2693. Could you draw officers from this company for these proposed cadet corps that you talk of?—They could be drawn, and they make very suitable ones too, because they know how to manage lads.

2694. *By Sir Henry Craik.*—You are now head teacher of North Canongate Continuation Classes for girls?—I am.

2695. What has been your training previously: did you go through the Training College?—I did; the Established Church Training College.

2696. Then you do not confine yourself in teaching to the physical exercises; you teach other subjects?—No; I am an assistant master in Castle Hill School.

2697. You only took up this as a feeder to your ordinary work?—Yes; the Board wanted me to take up the matter because I had studied the matter in Aberdeen, and taught it there before I came to Edinburgh.

2698. Did you have any opportunity of practising it in the Training College?—Not in my time.

2699. What turned your attention to it specially? Was it your own taste?—Well, for years I happened to hold the amateur championship in Scotland for hammer throwing and weight putting, and all my inclinations were towards physical exercises, and I went in a lot for cricket and football. I was captain of a football club, cricket, rowing clubs, and golf clubs. I was very much interested in the work, and that is how I went in for it.

2700. You are in the exceptional position of being what we might call a very thorough expert in those physical exercises, and, at the same time, having had the training, and taking part in the ordinary work of a teacher in the school?—The same.

2701. We cannot hope that that should be repeated in many cases?—Not in many cases, I daresay.

2702. And if you had to choose whether you would have a physical expert or the ordinary teacher who has had a certain amount of physical training?—For standard work in the ordinary school, I think that the certificated master would probably be the better. At the same time, I should think that there should be a drill instructor to assist.

2703. Of course you are in an exceptional position for giving an opinion upon this, and therefore I am anxious to draw out exactly what your view is. You think that in most cases the ordinary teacher is quite capable of learning the work very satisfactorily if he gets opportunity?—I think so.

2704. Have you had any experience of the classes under Article 91 (d); that is, the classes for teachers?—No, I have not.

2705. You do not think that the mere attendance at a class under that Article by teachers would be sufficient to qualify them?—If they were physically good men, and took an interest in the subject, then I should say it would, because I think that all that is wanted up to fourteen years is simply physical exercises, with dumb-bells, or Indian clubs, bar-bells, hoop drill; that is quite sufficient, in my estimation, for pupils till they are fourteen. Gymnastic work should be given after that, then let the drill instructor come in.

2706. Then with regard to the introduction of the subject into the continuation classes, you spoke of the difficulty of grants, that the grants did not encourage it?—That is so.

2707. But then that is no interest to the teacher?—It is not; many teachers wish to have big grants; they think it a sign of the school flourishing.

2708. But the Department now forbids the payment of teachers by results?—Oh, that is so.

2709. They require a fixed salary?—I do not say that the teacher does it with the object of making money for himself, but purely in order to earn a big grant for the school.

2710. But if a School Board takes a proper view of its functions then the financial matter should bear upon the School Board only, not upon the teacher?—That is so.

2711. You must necessarily in the course of your work come very much in contact with boys from fourteen to seventeen or eighteen?—A good deal; I see a lot of them.

2712. Do you think there would be much resentment aroused by requiring them to attend classes for physical instruction or some form of drill?—I do not think it; I do not think there would.

2713. You have no doubt that it would be for their good?—I have not the slightest doubt upon that point.

2714. And you do not think, so far as your observation goes, that it would interfere with their employment?—Not in the least.

2715. The employers would probably rather prefer it?—They would; the discipline and the training would be very much to the benefit of the employer.

2716. And probably really make the lad a more valuable and serviceable servant?—Yes; I suggest that in this respect, those lads who get physical training in the continuation school should have the mark of proficiency put opposite their name, showing that they have gone through a course, because I think an employer of labour would prefer to have one of those lads than to have one who has not gone through a course from the discipline point of view.

2717. And you think, if there were opportunities open, they would be willing to go?—I think so.

2718. You do not think that public opinion would be against the application of a compulsory form of it to those who did not come willingly?—I don't think so, only I would make the scheme of working a very interesting one; I would not limit that entirely to military drill, because military drill of itself is apt to get monotonous. I would give them plenty of gymnastic exercises, parallel bars, and that sort of thing; that is what the lads thoroughly enjoy, a combination of physical exercise with military drill.

2719. And perhaps some other teaching at the same time?—Some other teaching distinctly; oh yes.

2720. That might be brought under the scheme of our Continuation Class Code?—So I believe. That system obtains in Germany; evening schools are compulsory there.

2721. *By Mr Shaw Stewart.*—As far as Edinburgh is concerned, you lay stress on the usefulness of a public gymnasium?—I do.

2722. For boys who have left school. Have you considered at all whether the pupils should be admitted free, or on a system of fees?—Well, I daresay it would be better to charge a small fee.

2723. Why?—Well, there might be a congestion; too many might wish to take advantage of one building.

2724. I thought perhaps you meant that they would value it more if they paid a little?—Yes, that element comes in, too: that they would.

2725. Sometimes it has been said that youths who have been through a course of physical training may be averse to enlist in Volunteers or militia, because they have to go through a certain amount of drudgery of physical training over again?—That is so. Physical training and volunteering

2726. I suppose that might be obviated by a certificate earned in a large gymnasium being allowed to count in Volunteer training?—Yes, provided, of course, they get an elementary volunteer training—that is, that they had gone through the manual and firing exercises, and knew how to walk about.

2727. At any rate, it would absolve them from some of the elementary drill?—That is the point that lads most object to in volunteering, the long recruit drill.

2728. Then, one other point: we have had divergence in evidence about grading children according to their physical strength and their mental attainments. A witness, whom I may call an expert in physical training, said that they should be graded according to their physical strength. Another witness has told us that that might be a good thing, but it would not be feasible in a Board school. What is your own view?—It might be done; you might have them graded according to their physical strength, but it would involve a considerable amount of work. Grading for unnecessary.

Continuation Classes: compulsion practicable and beneficial.

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2729. It would add a great deal to the teachers' time?—Yes, a great deal; but I find that the physically well-developed pupil and the badly-developed pupil get on splendidly together; the exercises that they get are quite suitable for the most delicate child.

2730. You think physical training could be applied then to classes as they are?—Yes, perfectly.

2731. *By Mr Alston.*—I understood you to say, Mr Whitton, in answer to Sir Henry Craik, that you would limit the teaching of physical exercises in the Board Schools to the boys within school age, that you would not go further than physical exercises; did I gather that as your answer?—Yes, that is pretty much what I should think.

2732. Because in your *précis* you are of opinion that military drill—and you gave a very full statement of what military drill, in your opinion, should be, namely, manual and firing exercises, and bayonet exercise, marching, etc.—should be made compulsory in the senior boys' classes?—Oh yes; I included that of course in the senior class, a combination of the two in the senior class, physical exercise and military drill.

2733. You do not limit this physical drill to the boys of school age in the continuation classes?—Oh, no.

Training Colleges: volunteer company.

2734. Would you advocate that in every Volunteer battalion, and in the interest of School Board schools, there should be, if possible, such companies as the company of the Royal Scots to which you belong?—I would. I think it would be a splendid thing if in each training college in Scotland where the number of students was sufficient to justify a company being formed, that there should be a company of that description.

2735. And that would provide a body of teachers who, while they may not be all experts like yourself, at any rate would be very strongly interested in all military exercises?—That is so.

2736. And make the best teachers?—That is so.

Physical exercises: no objection by parents.

2737. Have you ever found that there is any objection on the part of parents to physical exercises applied either to boys or girls?—Very few.

2738. But you have?—Well, I have, but only in cases where the pupils were physically unfit.

2739. Well, but, of course, it would not be insisted upon in that case?—I do not remember of a case of one objecting to physical exercise, simply because it was physical exercise.

2740. No sentimental objection?—No sentimental objection.

Instruction by ordinary teachers *plus* expert.

2741. *By Mr Fergusson.*—In answer to Sir Henry Craik, you expressed a preference, I think, for the physical training in the Board Schools, the elementary schools, being done by the ordinary teaching staff; but do you wish to add to that any expert assistance, or do you think the staff could do without that?—Oh, I think they would be the better of having expert assistance, distinctly.

2742. Just now and again to overlook the work?—Yes.

2743. I did not understand what you meant?—In every school they could not probably get——

Feeding: ill-fed children: School Boards should make enquiries.

2744. You referred to some of the children being poorly fed? Are they sufficiently badly fed to make this physical training rather severe on them?—They are not.

2745. But if a child is getting very little food, is there no risk of overdoing it and overtaxing its strength?—No, I think not. The work is made so purely recreative that there is very little chance of them being overstrained.

2746. You think an ill-fed child is at no disadvantages as regards education?—Well, you cannot expect the ill-fed child to show up so well in lessons as the well-fed one.

2747. But is it as capable of learning?—Not quite; no, it cannot be.

2748. Do you think that School Boards ought to take any steps to try to ascertain which of the children are badly fed, and why they are badly fed, so far as possible, and find a remedy?—Yes, I do think so.

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2749. Is anything done in Edinburgh for that?—Not as far as I know. I believe in Sweden no child is allowed to take part in physical exercises until that child is medically examined to see whether he or she is fit to go through a course of physical exercises. We have not got that length yet in this country.

2750. Do you think, if the School Board authorities were to make some inquiries about the children that are badly fed, that it might not have beneficial results, that the parents might not, if they were spoken to, do better?—It might have that effect.

2751. And anything that would tend to make them better fed would be, of course, beneficial?—Better scholars and better in every way.

Musical dr

2752. You were very strong on the point of your exercises being done to music?—Yes, I am.

2753. My London coat does not allow me to give a practical illustration of what I mean, but do you not think that when you do these physical exercises to music, there is a sort of swing about the thing that is not nearly so good as when it is done to the word of command, 1, 2; you do not get the same prompt work?—Oh yes, I insist upon them going through their exercises; the music must be played smartly and everything must be done with the muscles kept pretty rigid.

2754. But do you get that as well to music, do you think?—Oh, distinctly I do.

2755. And they like it better?—They like it very much better. I go through the exercise to begin with without music and show them how it should be done.

Continua Classes: teachers' salary.

2756. You said it was dealing with the continuation classes, I think, that some of the subjects being paid smaller sums than the others did not make any difference to the teacher in the way of his pay?—It makes no difference.

2757. If I understood one of the previous witnesses, he explained to us in some way or another that it did make a difference to the teacher's pay?—Well he must be paid a certain sum. I suppose if teachers could earn very good big grants for a School Board that the School Board might be inclined to give him more liberal remuneration, but we are not paid according to results.

2758. *By the Chairman.*—Now?—No.

2759. *By Mr. Fergusson.*—Well in some indirect way in many cases if the grant is small it lessens the teacher's chance?—It would.

2760. I understood him to say so: I do not know whether I was wrong?—I do not know if it would; I think not. The sole object I think that teachers—really there is a system of rivalry between them, and the success of their school is very often judged by the amount of grant, and they like to earn big sums.

Public gymnas

2761. You expressed yourself very much in favour of a public gymnasium?—Yes.

2762. And you trusted some public benefactor might come forward. Well, we have been waiting for that public benefactor for rather a long time?—We have.

2763. So if a gymnasium is to be provided we must look to some other means. Why do you suggest that the Corporation should provide that gymnasium?—It is for the good of the town, for the behaviour of lads would be ever so much better, I think, if they went through a course of physical training; it would take the lads off the streets, the town itself would benefit—the whole town, all the people would be improved.

2764. But do you not think it is more a question for the educational authorities and for the Volunteer people to devise a scheme of gymnasia than for the town?—Yes; well, it might be done.

2765. Still you would like to see it done somehow?—I would like to see it done somehow; I think by the townspeople, probably they would be able to bear the expense more readily, seeing that it would be a boon to the town.

Games

2766. Now as to the football. One of the witnesses we had this morning said he had given up playing football as an amusement, because there were so many

evils attached to it; is that your view?—There may be some evils attached to it, but you cannot get any game without having one or two. I think the benefits of football far outweigh any evils that there may be in connection with the game.

2767. Have you seen it in many districts besides your own?—I have, yes.

2768. You know that as it has developed it is called the curse of Scotland?—Yes; the professional. I do not think there is much fear of any of our school boys developing into professionals, because when they leave school at fourteen they do not play much football till they are men.

2769. One other question about a point I do not think you were asked about. If there is to be a system of physical training, would you advocate one system being adopted, or would you give each school considerable liberty in the system it followed?—I think it would be necessary to give a considerable amount of liberty, because what would be suitable in a city school would probably not be suitable in a country school. I think, however, that a Circular might be issued giving a general indication of the lines upon which physical training should be carried on, and that each school should submit a scheme of work for the approval of the Department.

2770. I suppose you approve of the Aldershot system?—Not entirely.

2771. Well, you might take that as a basis, I suppose?—That is so.

2772. And then you would allow each school to modify that, or make variations of it to suit their own schools?—Distinctly.

2773. Would not that create a difficulty, with the teachers going from one school to another and finding different systems at work?—Oh no; I think they very soon adapt themselves to the system.

2774. And the inspectors too, when they were going round, having a lot of schools to inspect, all doing different systems, would not that be troublesome?—Their experience would be widened. I think they would soon come to be able to know the different systems taught. I think that physical instruction should be carried on on lines suggested by the Department or by a Commission, but that a certain amount of latitude should be given to each school as to how the thing should be carried through. I do not think that a cast-iron rigid code would suit all schools.

2775. No, but a system which may be modified?—Yes.

2776. But you would have a considerable base?—Yes. I am quite in favour of that.

2777. How about the training of the teachers; would you have them trained on one system?—No; I do not think it would be advisable to train them on one system altogether. I think that the military system, pure and simple, is not suitable for school children. There are some exercises of the military system which would be quite unsuitable for girls—down on hands, for example. I think it would be better having a combination of both physical instruction—some system or other along with the Aldershot system.

2778. Taking the Aldershot system as the foundation, you would modify it to suit children?—Distinctly.

2779. But then you would make that your system; you would teach all your teachers; you would not allow them to be taught all sorts of different methods, would you?—No; I think, however, that the Aldershot system has a good deal yet to learn in the way of exercises for physical instruction.

2780. *By Professor Ogston.*—From some points in your typed evidence and from what you have said, it struck me that you have studied a good deal of the theory as well as the practice of physical training; am I correct in believing that?—That is so.

2781. I should like just to obtain on evidence from you one or two points regarding that; you speak of physical exercises being not intended to make strong pupils stronger, but to make weak ones fit. I suppose that is the essence of all physical training?—It is.

2782. That when you make a man healthy by physical training, you cannot make him healthier by more?—That is so.

2783. And that those who apply physical training in excess produce disease?—They do. I have never come across a man yet who had developed himself abnormally but who always regretted it; he had great bunches of muscles upon him; unless he took a great deal of exercise he simply ran to adipose tissue—that is my experience.

2784. So that whether the enlargement was local or general he was diseased; he was morbid when it was excessive?—When it was excessive, yes.

2785. And that the application of physical exercise is intended to produce a proper balance between mind and body?—The same.

2786. Also at the age at which children would be subjected to it there are some important epochs, as, for instance, the age of fourteen that you mentioned, the age of puberty in boys?—That is so.

2787. Then connected with that, do you consider there are any very serious difficulties in adopting physical exercise to boys at that period, any very serious risks to be run?—No; I think not.

2788. And also in the case of girls, that physical exercise can be beneficially adapted to them without incurring inordinate risks about the same epochs?—I think so.

2789. What precautions would you say were necessary to guide such a course as this in instituting a system of physical exercise; are there any things that you would like to say should be avoided?—I cannot say that I have thought that out particularly.

Liberal system advocated.

2790. There is nothing specially occurs to you either in boys or girls?—I think that if the Commission is to approve of some system, that it ought to be a very liberal one, and that the exercises should be such as to be suitable—particularly suitable for both boys and girls. There are some exercises that girls get—I have seen them in schools jumping and running about and lifting their knees; for instance, there is that exercise on the hands; well, of course, it is an exercise that is totally unsuited to girls, totally unsuited, so that I think if a scheme is to be brought out that it should be on very liberal lines, a guide, that is distinctly what is wanted, a guide to physical training, because in hardly any school will you get the same system obtaining, and the same way of teaching. It is wanted very much.

2791. But beyond that general statement you do not want anything recorded as to what you consider the essence of a good physical training?—Well, I cannot say; I would probably need a little time to think that over before giving a reply.

2792. And beyond what you have said there is no point that you would like to lay before us as constituting a bad kind of system of physical training, no general theoretical consideration?—No; I would say not.

Cruden's system considered the best for children up to fourteen.

2793. Which system do you consider the best?—Well, I consider the system that obtains in the North of Scotland, in Aberdeen, about the best system, I think, for the training of children up to the age of fourteen. It embraces the military system, and it embraces the exercises that are best in the Swedish system. I have used these exercises myself for the last twelve years, with the result that the work of the school has been mentioned specially in the Blue Book by Dr Kerr, His Majesty's late inspector. I at the same time introduced one or two exercises of my own, but I found that the system is a particularly good system. It is called the Scottish system, I believe.

2794. Would you specify how you think it better than the Aldershot system?—Well, there is a greater variety of exercises for one thing. You begin with very simple exercises; every part of the body is developed by it. I may say that I have not studied the Aldershot system very particularly. I have been in the Aldershot gymnasium, but just on a visit. I can hardly think of a better system than that carried on by Colonel Cruden.

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2795. And on the other hand, you know of no special point in which the Aldershot system is superior to it?—I do not. I have discussed the question with Captain Macnee, who is an Aldershot man; he has got the certificate, and he is of opinion that for the training of children the Scottish system is the preferable.

2796. Do you think that music superadded to a system is of very great importance?—It is.

Music of great importance: reasons.

2797. And could you specify why?—I think that physical exercises should be recreative. In the school where I teach, the exercises are given after the day's work. The child enjoys the exercises because it is a pure rest to the brain. I do not think there is anything in the idea of the brain and muscle working together; I think it is purely recreative, and the music and the drill brightens up the child after a hard day's work in school. I might illustrate that in this way, by interposing this argument. Suppose two men take a walk into the country, six miles out, six miles back, they talk to one another the whole time and engage in a pleasant conversation; when they come back they really feel that they have not done very much walking. If a man is sent out to do that work, and has to keep his mind on it, he comes back pretty much fagged. The same thing applies to drill. When there is music along with the drill I find that it is so much better for the children, and it is a brain rest. That is my principal argument in favour of musical drill.

2798. And what advice would you give regarding the kind of music?—The music played should be national, and should be cheery and lively, popular tunes, good national tunes, Scottish tunes probably for Scottish children, and English tunes for English children. They enjoy them thoroughly when they sing them.

The witness withdrew.

Adjourned.

SIXTH DAY.

Tuesday, 13th May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr G. W. Alexander, M.A. 13 May '02.

Mr GEORGE W. ALEXANDER, M.A., examined.

2799. *By the Chairman.*—You are the clerk to the School Board of Glasgow?—Yes.

Schools in Glasgow: time devoted to physical training.

2800. To begin with, I will ask you just to run through the statement that you have handed in?—We got in a return from the various schools to find out what was actually being done at present, and we found, as I stated in the *précis*, the time varied in the infant departments from half an hour to rather more than an hour and a half a week. In the junior and senior divisions the time is practically half an hour throughout, although one or two manage to find one hour per week. In the advanced and higher grade departments the time varies from half an hour to three-quarters, and in the two high schools which we have under the Board, from three-quarters to two hours a week. I have noted that the system of instruction taken up is based mainly on Chesterton. Some years ago we had our teachers trained, and by way of securing something like uniformity without tying down the instructors and teachers too much, we issued Chesterton's book to the schools and asked the teachers to recognize that as the basis, although our work goes a great deal further than anything in that book. Then we noted that the Board had supplied a good deal of the simpler apparatus, in the shape of wands and bar-bells, clubs, and even single-sticks in a number of the schools, and in addition to that they have four gymnasia, which are used as centres, with fixed apparatus, and then a gymnasium in each of the two high schools. Two others are being erected at present, which will serve as centres for the schools in the neighbourhood. The teaching is done, I think, in about equal proportions by special instructors and by the ordinary teachers of the schools. We have so many instructors visiting the schools. Some of them are there mainly for the purposes of supervision rather than for instruction, but the majority of them are doing the whole instruction which is being given in the schools. I was not certain whether swimming was included in the reference, but we put down some information as to what we are doing in that way. The Corporation have been good enough to give us their baths since 1893, and the older scholars of the schools in the neighbourhood of a bath go there in turn for one or two lessons a week, under instructors provided by the School Board. For the last eight or nine years we have had an average number of something like 2000 boys and girls. The results, in the case of the girls, have not been quite so satisfactory, and this year, by way of experiment, we have dropped the girls and confined the instruction to boys. The main difficulty with regard to the girls has been the want of satisfactory instructors. It is difficult to get women in Glasgow who are thoroughly well qualified to teach the girls. We have also found that the girls are somewhat timid about entering the water. Then we invited a report from the headmasters. We asked their opinion as to the work being done at present, and we found —I can give some particulars if the Commission will allow me to refer to my notes—that out of sixty-

Instruction: Chesterton's system.

Apparatus.

Gymnasia.

eight headmasters who expressed an opinion, fifty-seven were thoroughly satisfied that the work done just now was both beneficial and successful. Five of them did not think it was of sufficient value, mainly because the time given was too limited, and six gave a somewhat qualified approval to the work; they thought that it was very good in the interests of the school discipline, but they were not quite so satisfied as to its value in improving the physique of the children. Then we found that twenty-three of them expressed an opinion on the best method of giving the instruction. Of these, eleven were in favour of the work being done by the ordinary teachers, five preferred special instructors alone, and seven of them preferred to have the work done by the ordinary teachers, with occasional visits from experts. There was a very general feeling in favour of more time being found, but the headmasters seemed to feel that with the present curriculum it was a very difficult thing to do. Coming to the suggestions which we sent up, the Board think that it would be a good thing if a little more time for physical training could be found, and they also would prefer that the work should be done by the ordinary teachers, which would throw us back upon the training colleges doing a little more for physical instruction. Then they would like to have a little more latitude in the way of providing accommodation, and also they would like to have some part of the expense met by the Parliamentary grant—the additional expense to which they have been put. With regard to the continuation schools, which were included in the reference, our work is somewhat limited. During the last winter we had classes only in nine schools, six of them for ordinary physical exercise for the ordinary scholars, and three for gymnastics—mainly for gymnastics, although a certain amount of time was given to drill. I have put in the *précis* that the time varied from thirty minutes to two hours per week, and the teaching is given by the drill instructors employed in the day schools. In one of the schools six hours' work is being given per week, and a number of the pupils attend all the six hours. Our suggestions in regard to that are mainly matters relating to the Code. We should prefer that a little more prominence be given to classes both for physical exercises and for gymnastics than is given at present. I shall be glad to expand any of the notes here in answer to questions.

2801. *By Mr Fergusson.*—With regard to the time, I think you said that thirty minutes a week was what was usually given, and in some cases sixty?—Yes.

2802. But if some can give sixty, why could not all?—Well, as a matter of fact there are only two schools giving sixty, and one of these schools is in a poor locality, where they take a somewhat shorter curriculum; the other school does it by cutting down principally the English, and to a certain extent the arithmetic.

2803. And do the English and the arithmetic suffer in the report of the school?—Not in that particular school; there is rather a better class of child there.

2804. I suppose some of those headmasters will be before us, will they not?—One of them will be here to-day.

2805. Chesterton's system is the basis of your work?—That is so.

2806. Is that founded on the Aldershot system, or what is called the Scottish system, which is Colonel Cruden's?—It is the system which Chesterton has issued in his book. I think it is founded on the Aldershot system, if I remember rightly.

2807. You have not any very intimate acquaintance with it?—I have no practical acquaintance with it; I know the book, that is all.

2808. You do not say anything as to whether you would advocate a public gymnasium in every town; have you ever considered that?—My Board have never considered that question.

2809. But you find the public swimming baths of great benefit?—We do. We have no swimming baths in our own schools.

2810. What exactly did you mean by saying that you would like greater latitude in providing accommodation?—In our older schools, and in some of the schools which were transferred to the Board—some of the Church schools transferred—the playgrounds are naturally smaller than in the more modern schools, and there is absolutely no accommodation inside the school where drill can be given. The Board commenced some years ago to provide accommodation for drill at these older schools, but the Department objected to our covering up any part of the playgrounds, on the ground that the playgrounds were too small. We had one or two cases, but then we gave it up. Playgrounds

2811. If you have not got the space, what can you do?—Our feeling is that these drill halls are simply covered playgrounds, and we thought the Department might allow us to cover a somewhat larger portion of the playground than the existing sheds covered, looking to the fact that in most of these schools no additional ground can possibly be got. We did buy additional ground where we could get it, but in most of the schools no additional ground could be found in the neighbourhood, and it is the only way of providing accommodation.

2812. That is the only way you could see of doing it?—That is the only way we could see of doing it.

2813. *By Professor Ogston.*—One question suggests itself to me, on which I should like Mr Alexander's opinion. Have you had to deal with the instruction in physical training of incurable children in Glasgow?—No. Incurable children.

2814. You provide your incurable children in Glasgow with the ordinary education?—May I ask in what sense do you mean incurable?

2815. Have you got any special children's wards or special incurable hospital in Glasgow?—Oh, yes.

2816. They, of course, have a right to be educated?—Yes.

2817. And the School Board gives them the education?—No, not at present.

2818. It gives none?—No. There is one home for such children, the East Park Home; they provide a teacher themselves.

2819. An ordinary teacher?—An ordinary teacher, yes.

2820. Not paid by the School Board?—Not paid by the School Board, and the school is not under inspection.

2821. *By Mr Alston.*—What is the total number of children in Glasgow under the School Board?—In the School Board schools? Number of children under Board.

2822. Yes, in the School Board schools?—About 77,000 just now.

2823. That does not include Govan and Partick?—That does not include Govan or Maryhill or Springburn, simply the School Board area.

2824. Simply the School Board area of Glasgow. Have you any idea of the number, including these large districts which are practically the city?—I should think that in the Board Schools it would run up to something not less than 120,000; in the Board Schools alone.

2825. That is, practically, the population of children in the city for whom this physical exercise would be an advantage?—Yes.

2826. Are there many cripple, or infirm children in your area?—We have at present only one class for cripple children, with about thirty scholars in it—that is, physically defective children, as we call them; of course we have other classes for mentally defective children.

2827. Excluding the cripple or physically defective children, physical training would be advantageous for all classes other than the mentally defective?—I think so. I might say that the question of getting some form of physical training for weaker children who might be capable of any kind of curative physical training has been suggested, but we have never considered that we had any power to do that. Physical training advantageous.

2828. Is the Glasgow School Board very hearty in this matter of physical training?—May I read a resolu-

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Board's views.

tion which was passed last week? I can put in a copy. It was quite a short motion:—

'That this Board fully recognise the necessity for 'due attention being paid to the physical training of 'the scholars in the schools, so that they may grow up 'with sound minds in sound bodies. The Board have, 'during recent years, largely developed the facilities 'and opportunities for such training, and are anxious 'to adopt the most improved methods and appliances. 'At the same time the Board have a most decided 'objection to any system which introduces all the 'details and methods of military drill, and tends to 'encourage a spirit of militarism among the scholars, 'which, in their opinion, is opposed to the true interests 'of education.' That represents, I think, the present position of the Board.

2829. What is the date of that?—This was passed yesterday week.

2830. How did they come to introduce the last clause about the dangers of military drill?—I am afraid it was entered as a matter of precaution simply; I cannot explain it otherwise.

Swimming for girls: lack of teachers.

2831. You said it was a difficult thing to instruct girls in swimming on account of not being able to find teachers?—Well, we have had difficulty, we have had only one or two satisfactory teachers.

2832. Could that be overcome,—that is to say, are girls not instructed by male teachers. They are all in proper costume, and it has been found suitable as long as the public are not admitted?—Our Board prefer to have them taught by women. You must recollect that we only give the swimming during the summer months, and it is always more difficult to get teachers for a short period than teachers who are engaged for the whole year round.

2833. *Sir Henry Craik.*—Was that resolution which you handed in passed unanimously by the School Board?—There was one dissentient.

2834. In what direction was the dissent expressed?—I think it was to the last paragraph being included.

Militarism.

2835. And did the School Board feel that there was any real danger of this militarism which they had to guard against?—I cannot answer as to that.

2836. There was no discussion took place?—There was a certain amount of discussion on the motion, but any discussion turned mainly on the question as to whether the drill was to take a military turn for the older scholars, or be confined to what you might consider purely physical training.

2837. Did the School Board find that there was any objection of this sort raised by the parents?—There has never been any objection raised to anything we have done in the matter of physical training.

2838. Nor any withdrawal of children on the ground that it was tending to what is called militarism?—No; I have not heard of any. You see there is very little of what might tend in that direction, there is no military drill being given in our schools excepting the marching exercises.

2839. Is there any member of the School Board who takes a special interest in this part of the work?—There are one or two.

2840. There is no special committee?—Yes, there is a special committee for physical training.

2841. And does it visit the schools?—The members visit the schools at times; there is no special arrangement for visiting the schools at the time when physical training is being given.

2842. Have you any general exhibition of it?—Not any general exhibition of it, no; each year we have exhibitions by individual schools.

2843. But there is no systematic visiting of the schools at the time in order to inspect this physical instruction?—Not by the members.

Medical examination.

2844. Do you seek any medical advice on the question?—We have not, so far.

2845. You have no medical examination of the scholars?—No.

2846. And do you know if the School Board would be in favour of such medical examination?—I think they would.

2847. With regard to the verdict of the masters, I would like to understand distinctly was there amongst the expressions of opinion any expression of opinion that physical exercises generally were not beneficial?—There was.

2848. It was not merely the inadequacy of the present physical instruction that was expressed?—No.

2849. But a feeling that the physical instruction was not for the advantage of the children?—In one or two letters there was a distinct statement that the physical training was of no use. I can produce a letter or two if you like.

2850. From teachers?—Yes, from teachers.

2851. I think we had better have those letters?—One headmaster puts down the want of success largely to the fact that the children in his school are badly clad and badly fed, and that therefore they are not in a condition to benefit by it. Then I think I can find one other more decided. This one may be taken as due to want of time: 'I am unable to say from my 'own observation that the children look on an average, 'in any noticeable degree, more or less robust than 'they did before the system of physical training was 'generally introduced. I do not think that any 'considerable advantage is derived by the pupils 'from the exercise given to them for about half an 'hour once a week.' That is on the question of time.

2852. Had you any opinion from the headmasters that the physical training, where it was not inexpedient on the ground of weak health or insufficient feeding, was an evil rather than an advantage in education?—I have a recollection that there was one. And this one was also on the ground of time: 'As to the effect 'of physical exercise on the physique of the children 'I am inclined to think its effect is almost *nil*. Its 'failure is due to the short time devoted to the 'subject per week, to the want of a drill hall, confining 'the effective teaching of it to the summer months, 'and to the want of a musical instrument.' There is a musical instrument in the school, but there is no place where it can be put so that it would be heard properly.

2853. Yes, but all that points to the fact that the teachers rather object to the lack of sufficient opportunities?—Yes.

2854. To the defects in the children which prevent them benefiting by it?—Yes.

2855. Not to the subject being an unimportant or unbeneficial one in itself?—Oh, no. I think they almost unanimously are of opinion that it is of benefit.

2856. Quite unanimously—do not put it almost unanimously. If it is not unanimous, please tell me?—It is due to the want of time.

2857. Certainly; but it is quite unanimous that the subject is one of great importance and productive of benefit. Is there any variation from that?—No. If you allow for the time factor, there is no variation.

2858. No variation as to the subject being one that is for the benefit of the children. Then as regards the training of teachers in your *précis*, you think that the ordinary teacher should be qualified for this work. You have had classes for the teachers, I think?—Yes, for some years.

2859. These classes are carried on by special experts?—By special instructors, yes.

2860. Generally retired non-commissioned officers?—Men who have been in the army, yes.

2861. And have any certificates been issued upon these?—Yes. We arranged for an examination by the British College of Physical Education, and the teachers who were able to pass the examination got the certificates of the College.

2862. For which they pay, I think?—For which they pay, or rather the Board has paid.

2863. You have now classes, I think, in operation which have been inspected by the inspectors of the Department?—Yes.

2864. The military expert who acts for the Department?—I think for the last two years, these classes have been put under Article 91 (d) of the Code.

Code (d).

2865. And the Department now issues certificates?—Yes.

2866. I presume you would seek certificates from the Department instead of the British College?—Instead of the British College, yes.

2867. And you think that these classes afford sufficient opportunity for giving the teachers the necessary training?—The existing teachers, yes.

2868. One other question as to the greater facilities you desire to be granted to School Boards. Have you ever thought of having any field or larger playground common to all the schools?—I do not think it has occurred to us that we had any power to provide such a place.

2869. What in the Act would prevent you?—Well, it could not be provided in connection with any one school.

2870. Have you ever made such an application to the Department?—No; I do not think it has ever occurred to the Board to make such an application.

2871. Where do the scholars of the High School of Glasgow go for any games?—They have a field of their own, towards the cost of which the Board make a contribution.

2872. The Board make a contribution in that case?—Yes.

2873. They contribute to a field for the use of the better class of scholars, but they never thought of making such a contribution or making such provision for the poorer schools?—No; there is another point in it.

2874. Yes, but, as a fact, that is the case?—That is the position.

2875. Do you want to make any further explanation?—The High School goes in for games probably to a larger extent than any of the other schools.

2876. But do you not think you can encourage it in the other schools?—As to the other schools, there are parks in the neighbourhood of most of them, and in most of these parks, not all, there are special grounds set aside for children playing games, football, and cricket.

2877. But that cannot be under such supervision, or with such easy opportunities, as are provided in a field that belongs to the children only?—I don't think there would be very much difference between the present system and the children from a considerable number of schools using a special park.

2878. But it is found important for the boys of the High School?—Well, I am afraid it is more a matter of use and wont there.

2879. The subject has never occurred to the School Board?—It has never been specially considered as a definite question.

2880. Then with regard to continuation schools, you say that physical training should be an optional subject. It is an optional subject at present?—Not within the time set aside for the subjects in Division I.

2881. Do you not think it would be better to say it should be a compulsory subject in Division I.?—There is something to be said for that if Division I. were supposed to continue the whole day school curriculum, but as things are I do not think the Board would care to see it compulsory.

2882. Do you not think that for boys of the age that are attending continuation schools, it is perhaps more necessary and useful than at any other time?—That is my personal feeling, yes.

2883. But the Board, you think, would not agree with that?—I do not think that they would like to have it compulsory.

2884. But if it is beneficial for these boys, what is the objection to make it a necessary part of the course?—I think that they would feel that as the time is fairly limited, it is of more importance that the ordinary education should receive attention, and that boys can find some means of improving their physical side in other ways.

2885. Is it the case that there are opportunities in Glasgow for boys of that age for carrying on in systematic ways and under proper supervision physical exercise?—A large number of our boys are in the Boys' Brigade.

2886. And you think that adequately provides for the wants of this section of the community?—I think so. We have always taken the Boys' Brigade into account in the arrangement of our schools, and the Boys' Brigade have taken our classes into account in the arrangement of their meetings. I mean they have tried to avoid meeting on the same nights.

2887. But there are many, surely, and perhaps the more difficult members of that part of the community, who do not come under the influence of the Boys' Brigade?—There would be some difficulty in bringing them under the influence of the evening schools in the same way, I think.

2888. But suppose you had some compulsory power?—We should do our best if we had the powers to use them, certainly.

Compulsion: some supervision desirable.

2889. You have no doubt that for a certain part of that class of youths there is great necessity for some sort of supervision and encouragement, interest in it being taken by some superior authority?—I agree with you that it would be a very good thing. I think that we arranged more widely for the ordinary scholars receiving physical drill under the previous Code.

Grants.

2890. Then one word as to grants; you say that the grants for physical training should be increased?—Excuse me, no; there has been no grant hitherto.

2891. We could recognize physical training under the fourth section of the Continuation Code?—Oh, you are speaking of continuation schools; excuse me, I was going back. Yes, I am aware of that.

2892. You advocate the increase of that grant?—Yes; that is so.

2893. But is it not the case that our grants are arranged in proportion to the expenses of the various classes?—We do not find that the expenses of the physical training classes are so very different from the expenses of the other classes.

2894. Do you mean to say that you cannot get a drill-sergeant at a cheaper rate than you would get a man to teach a higher science or mathematics?—Oh, if you take our higher teachers——

2895. Yes?—I am speaking of the ordinary teachers. Our first suggestion here refers to Division I. classes.

2896. But we try as far as possible to bear three-fourths of the expense of your classes, whatever that expense is?—Yes.

2897. And you think that it is not an unfair demand that the School Board ought to bear one-fourth of the expense?—No; we shall bear a good deal more than that, I think.

2898. But we do pay our grants up to three-fourths?—That is your maximum, but you do not necessarily pay grants up to three-fourths.

2899. In the case of physical instruction, it will not go so high as three-fourths?—Oh, no; I do not think so.

2900. But if it did, you think the School Board ought to take the rest?—I do not think the Board would object to that arrangement.

Instruction: by army men.

2901. *By the Hon. Thomas Cochrane.*—I think you said the instruction was very largely given either to teachers or the children, I did not gather which, by army instructors or by ordinary teachers?—In the ordinary schools.

2902. Yes?—Oh, to the children.

2903. To the children?—Yes.

2904. By what sort of army teachers?—Men who have been in the army, and most of them men who have obtained some kind of certificate for physical training or gymnastics when they were in the army.

2905. They at present give an adequate training, do they, to the children?—So far as the facilities will allow in the schools and the time.

2906. What facilities do you allude to?—I mean if it is a wet day you cannot take the children out to the playground; you must make the best of it in the ordinary class-room, either by having the children stand up in their desks or on the seats.

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2907. Are they generally fixed seats and graded floors?—Generally.

2908. You suggested enclosing some part of the playgrounds?—Yes; as a matter of fact we have some seven or eight special halls, perhaps a few more in the playground. Then, in all our new schools, we have a large central hall where the drill is taken.

Playgrounds: special halls.

2909. I wanted to ask you, if your training is now largely carried out by military instructors, it must partake to a certain extent of a military training?—So far as the physical exercises are concerned it does not. They do not give very much of what I understand is strictly known as military drill as apart from the physical exercises.

Military training: Board's resolution.

2910. I do not quite follow that, and I was looking at this resolution which says: 'The Board have a most 'decided objection to any system which introduces all 'the details and methods of military drill,' and I want to find out what they had in their mind when they passed that resolution?—Oh, well, I think I could probably explain that. They have in their mind drill which is confined to marching and to formation of companies, evolutions of various kinds, and to having rifles, with manual exercises, and that kind of thing.

2911. That is for the Board School children?—Yes.

2912. And what brought into their mind to raise such a point as that?—I am afraid I cannot explain that.

2913. You were present, were you?—I was present at the meeting, but I mean the mover of the motion drew it up. I suppose if one is to find a reason for it, it must be in popular discussion, that is all.

2914. But you speak of the good work done by the Boys' Brigade in Glasgow?—By the Boys' Brigade.

2915. The Boys' Brigade?—Yes, so far as I know it.

2916. They, I think, have a very distinctly military organisation and military training?—Yes.

2917. And you have found no harm result from that system of training?—I personally have not.

2918. And the School Board have not?—No, I think the School Board are in full sympathy with the Boys' Brigade—I am speaking generally.

2919. As far as you are aware there is no reason for this resolution?—Well, as I said before, I think it was passed as a matter of precaution more than anything else.

2920. But precaution against what?—Precaution against anything being done in the way of definite military training in connection with the schools.

2921. By whom?—By any one.

2922. Well, but they must have had somebody in their mind?—I cannot say that they had anybody in particular.

2923. Do you think that the system of physical exercises as carried out does foster a spirit of militarism?—The exercises at present in the schools?

2924. Yes?—No, I do not think so.

2925. *By the Chairman.*—How long have you been clerk to the School Board?—Ten years.

2926. May I ask how many different Boards you have been under in that time?—Four.

2927. Also, can you tell the Commission whether the composition of the present School Board has altered much at the last election?—No; the composition does not alter very much from election to election.

2928. I said at the last election; is the present School Board very much the same as the last School Board?—Very much the same; I think there were only two changes.

2929. I mean it would account for continuity of policy and so on?—Yes.

Physical training under Board: history.

2930. How long has the attention of the School Board in Glasgow been drawn to physical training of any kind?—The first trace I could find of it was in 1883. The Board had the subject of drill in the various schools before them at that time, and they asked a return. At that time it was apparently left to the headmasters and the teachers to do as they chose in the matter, and they found that in the majority of the schools some kind of exercises was being given. Then they issued a circular asking headmasters to give a little more attention to it, but nothing more was done till 1894, when the Committee on Physical Training was appointed, and they obtained a fresh return on what was being done, which showed that in all infant departments a considerable amount of physical exercise was being given, but in only a few schools was anything being done beyond the infant department and the younger scholars.

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2931. Well, that was a sub-committee of themselves?—Yes.

2932. In 1894?—In 1894.

2933. And then subsequent to that?—Then the next year the Code made some form of physical exercise a condition of the higher grant for organisation and discipline which was a special grant at that time.

2934. Did the Board enter into that fully at once; I mean did they make any change in their procedure? Was it at that time that they went in for this special Chesterton?—They had already appointed so many drill instructors.

2935. Was it at that time that they adopted the Chesterton system?—Yes; previous to that they had some ten or a dozen instructors amongst whom the schools were allocated, and the teachers did not necessarily do anything in the way of teaching, but when this was put into the Code the Board made arrangements for having the teachers instructed in physical exercises, and it was at that time that they adopted Chesterton's book, which was one of those recommended by the British College of Physical Education.

Chester system.

2936. And they have kept to the same system ever since?—All I can say is that Chesterton's system is the basis. Each instructor adds to it as he sees fit, and of course we have since added pure gymnastics which are not covered at all by Chesterton's book.

2937. Who examines this instruction?—His Majesty's Inspectors.

Inspect

2938. Do they ever have any assessor, any skilled assessor, with them?—I am not aware of them having had a skilled assessor in the day schools.

2939. Simply just the ordinary inspector examines that the same as he examines every other subject?—The same as he examines every other subject.

2940. You are here as representing the Board?—That is so; yes.

2941. You were not called, were you?—Not specially, no; the Board were asked to send a representative.

2942. Is that the reason why you are here instead of a member of the School Board?—That is so.

2943. I mean, could you explain?—The reason is that the Board thought that as I had been there through all the special arrangements in connection with this subject I had more information at my disposal than any member, and they thought in that way, as only one representative was asked for, it was better that I should come up.

2944 Considering that you had been there ten years?—That is so.

2945. Do you consider that the interest—you are answering for the Board, and so I can ask it of you—is growing as regards the members of the Board, or do you think that it is very much the same; it is just taken as a compulsory subject like anything else?—I think the members do take a considerable interest in it; and I think I can say for the great majority—if I cannot speak for all, it is because I have not been talking with them on the subject—that they would welcome more time being found for physical exercises.

Board's interes subject

2946. I suppose there is no sort of medical inspection in your schools of the children?—No; not of the children generally.

Medica inspect none e

2947. I mean, certainly not those undergoing physical exercises in any way; nothing special?—No; the teachers themselves leave out any children who are manifestly unfit for it.

2948. But do they leave out children on their own responsibility, or do they require a doctor's certificate?—I think they do it on their own responsibility. The children may bring a medical certificate in some

cases. Perhaps you would put that question to Mr Powell, who has had large experience.

2949. *By Sir Thomas Coats.*—You said that in one school the headmaster thought very little advantage was got from physical training because the children were ill-fed and ill-clothed; would that fact apply to more than one of your schools?—Yes; and the curious thing is that in one or two similar schools the headmasters think the physical training is all the more necessary because of that fact.

2950. Of the ill-feeding?—Because of the poorer physique.

2951. Then might I ask is there any means taken to inquire into the cause of ill-feeding and bad clothing, and any steps taken to remedy those things?—Oh yes, the teachers are asked to let the School Board know of any cases of neglect, and we are in touch with all kinds of benevolent agencies in Glasgow, and we are immediately able to find either food or clothing for really every case. We get much help, I may say, from the Charity Organisation Society.

2952. Then why should this objection be taken by the master of any school, seeing that provision is made for feeding and clothing the children?—I have read you his letter; I am afraid that is all I can say.

2953. You said, I think, in reply to the Chairman, that there is no medical supervision of the children?—No definite medical supervision, no.

2954. And there is no system adopted in any of the schools for taking the weights and measurements of children and watching their development or otherwise?—I believe the rector of the High School intends to institute a system of that kind.

2955. *By the Chairman.*—Oh, but at present, at the present moment?—At the present moment there is nothing; it will be so next year.

2956. *By Sir Thomas Coats.*—And it is not in use in connection with the Board Schools, at the ordinary Board School?—No.

2957. Would you consider that advisable and practicable?—Both. I am speaking for myself personally now.

2958. You think it would be both advisable and it would be practicable to do it?—Yes.

2959. *By Mr Fergusson.*—Might I ask one question about that resolution of the Board; was that resolution passed in view of your coming here to give evidence?—That was so; yes.

2960. And it is the military idea that frightened some of the members of your Board?—That was so.

Military training and physical training.

2961. Outside School Boards have you found prejudice against physical training when there was a military element introduced?—Yes, I have; I mean in general conversation with people one comes across. I have heard it expressed outside.

2962. Do you think the continual reference to military training, when you mean physical training, does some harm in that way?—That is possible. I mean it may be due, to a certain extent, to a misunderstanding.

2963. Have you heard very strong exception taken to the work of the Boys' Brigade simply on the ground of its military tendency?—Oh, yes, I have found that.

2964. Do you think that is peculiar to the west country, that feeling—the strength of that feeling?—No; I have heard it both in the east and in the west of Scotland.

2965. *By Sir Henry Craik.*—This motion was moved by Mr Dyer, I see?—Yes.

2966. Do you remember who seconded it?—Mr Laidlaw.

2967. And of course the first sentence of this motion expresses a view that I should think of such general agreement as hardly to need assertion; but the Board go on to say that they have largely developed the facilities and opportunities for such training during recent years. In what way have they done so?—Well, in the employment of instructors, in the providing of very large quantities of apparatus, in gradually establishing gymnasia in the various districts of the city which can be used as centres for the schools.

Opportunities developed by Board.

2968. *By Mr. Alston.*—Does the resolution of the Glasgow School Board, just read, commit them to disapproval of military drill for boys in continuation schools?—Yes, for advanced military drill.

Military drill disapproved of by Board.

2969. What they mean by military drill?—Yes.

2970. Then they cannot see their way to approve of military drill, as they understand it, in any shape in their schools, either in the ordinary schools or in the continuation schools?—No, that is the position.

The witness withdrew.

Mr James Powell, examined.

2971. *By the Chairman.*—You are the headmaster at Newlands Public School, under the School Board of Glasgow?—Yes.

2972. I may say shortly that you have been a Volunteer and an officer in the 47th Glasgow Cathedral Company of the Boys' Brigade?—That is so.

2973. And have a considerable knowledge both of military exercises and also of teaching them?—Yes; I have had a knowledge of that from 1877.

2974. Now, if you will kindly begin with your *précis* at physical training in Newlands public school?

The class teachers take their classes at stated hours once every week to the Central Hall, and there, for about thirty minutes, give a lesson in physical exercises. Boys and girls are taught at the same time. Drill consists only of the simplest elements, Chesterton's exercises, usually accompanied by music, forming the greater portion of the lesson. Delicate and deformed children are allowed to fall out, or are not drilled at all. Lately there has been added a lesson of five minutes every day. This is given in the classrooms, suitable exercises, involving no leg movements, being chosen. The scheme is that contained in Chesterton's *Manual of Drill and Physical Exercises.* I need not read the scheme. Advantages:—Military drill has a peculiar fascination for boys. They enter into it with the desire to be perfect, and respond to the word of command with an alacrity which calls forth a smartness and alertness in the whole bearing. Each boy feels he is one member of a body of boys, all obeying the same command, and that prompt action must follow, if his company would excel. This smartness and obedience have a direct and most beneficial effect on the school discipline, and the respect which they feel it is right they should pay to the officer is easily encouraged and carried into the whole schoolboy life. The physical exercises, as given by Chesterton, have been found to be eminently suitable for mixed classes. They are not difficult, nor do they require concentrated or severe muscular effort, yet they call all the joints and muscles into action, and cannot but have the effect of improving the children's physique and health. Disadvantages:— Public elementary schools have now so many subjects that it is exceedingly difficult to give more than the bare minimum of time to physical training without giving too little to purely educational subjects. Reading, spelling, intelligence, arithmetic, writing, grammar, composition, geography, history, nature knowledge, singing, drawing, manual occupations, drill, swimming; besides which, in schools with advanced departments, French and mathematics must be taken, or kindred subjects, and in all, the girls must have cookery or laundry and needlework. This is a formidable list, yet each subject requires time and careful teaching, and all must be done in a week of twenty-five hours of secular instruction. Suggestions:—The boys' love for drill and physical exercise might be laid hold of by public schools, as the officers of the Boys' Brigade have

Disadvantages.

Suggestions.

Mr J. Powell. 13 May '02.

shown it can be done by Sabbath schools. Cadet corps or public school companies might be formed, and would produce in due time senior companies of those who had left school. The difficulty would be to secure officers to undertake the instruction and organisation. It could not be expected to get such voluntary enthusiasts who have done so much for the Boys' Brigade, but provision would have to be made sufficient to offer an incentive for the work. Advantage might be taken of the Boys' Brigade, an organisation already in existence, and by affiliating the companies with evening schools, as was done in 1891, give that pecuniary encouragement which would increase the number of companies and boys under its excellent control.

2975. Then I see that Chesterton was an army man, an Aldershot man, and an excellent gymnast himself. Were you aware of that?—All that I know of it is from the book, my lord.

2976. Do you go through this drill yourself?—Not personally now; my class teachers do.

2977. But you did?—I did.

2978. And your assistants do it now?—My assistants do it.

2979. Do they spend much time in giving what are called cautions, or do they keep as much as possible to the actual words of command?—Keep to the actual words of command.

2980. That is the instruction to them?—The instruction; yes.

Music.

2981. Quite right too; and, of course, a great deal is done with music?—Very largely with music.

2982. And you find that the children like that?—They enjoy the music; at the same time, I believe it to be a most excellent thing for the class to drill without the music; it is a more difficult test for a class.

2983. In addition to the music, do you ever do any singing?—No.

2984. While the exercises are going on?—No.

2985. You have seen it done?—I have seen it done; yes.

2986. But it never was done under you?—Very seldom; it is not done at all now.

No medical inspection.

2987. You have no medical inspection of your school or scholars?—No medical inspection.

2988. And therefore, if anyone is unable to perform any physical training, it is entirely in your option whether he or she should do so or not?—Quite so; the children are allowed perfect freedom there.

2989. Do you ever get a medical certificate sent with the child to say he or she is not able?—Not a medical certificate, but I have had a letter from the parent asking that the child may not have drill.

2990. You do not think the matter is sufficiently stringent to be done as to call for a medical certificate as an excuse?—No; not by any means. The teachers feel that if a child is delicate it would be unwise, and I watch this matter myself very carefully.

2991. And in the event of any child having strained itself in any way; such things may often happen?—The exercises are such that there is little probability of any child being strained.

2992. And supposing there is a child with, say, one leg or one arm, or anything of that kind?—They are allowed to fall out; they are not drilled at all unless they really wish it themselves. They enjoy the drill so much themselves.

2993. That is entirely left to you or your under teachers to decide?—Yes.

2994. Both you and your under teachers?—Yes.

Physical training: no objection by parents.

2995. *By Mr Shaw Stewart.*—Do you find any disinclination among parents to encourage their children to take an interest in the drill and physical training?—We never had a single case of a parent asking his child not to have drill, except through a child being deformed or delicate.

2996. I suppose you would agree that physical training is intended to fit the boys and girls to make the best of their minds and bodies in any walk of life which they may afterwards take up?—I thoroughly agree; yes.

2997. And you consider that is sufficiently understood by parents at present to be the aim of physical training in schools?—I do not know that the parents thoroughly understand that.

2998. Would it be advisable, do you think, that in any recommendation in favour of physical training it should be made clear that there is no military object implied; would it be well to make that clear to the public?—Well, I think it would have the effect on some parents of reassuring them that there was no ultimate object as regards militarism.

2999. But as a matter of experience you have not come across many instances of doubt in the parents' mind?—Not at all.

3000. Just two points I want your opinion on. We have been told that in Germany they are beginning to see the advantage of interspersing physical training during the whole school day, that is to say, devoting about five minutes or more at the end of every hour; do you think that would be a good system?—I have lately begun such a thing in a more limited manner by taking five minutes at eleven o'clock, besides the half hour's drill, and although it is too soon to speak of the results, I anticipate that they will be excellent.

Special grading necessa

3001. As regards grading the children according to physical strength and not according to their mental attainments, that is strongly pressed on us by experts, but schoolmasters have told us that practically it is difficult, if not impossible, to do: what is your opinion as to that?—I should say that classes are pretty well graded as it is. The mental attainments of children in any class usually form such a grading; for example, in Class II it is found that the great majority of children are between eight and nine years of age; it is an exception if a child is in the wrong class for physical training.

3002. And that exception, you think, could if necessary be dealt with on the teacher's own initiative?—The exercises are not so severe on a child that it need be felt, I think.

3003. *By Sir Henry Craik.*—Your service has been chiefly, if not entirely, in Glasgow?—Wholly in Glasgow.

3004. You have no experience in country schools?—None whatever.

Militar elemen

3005. You say that the parents require to be reassured in regard to this physical instruction, that it has no tincture of the military element?—I do not say 'require'—I beg your pardon—I say it must tend to reassure them; but after all it is only through hearsay in casual conversation that I think there may be some who do not wish the military element in the schools.

3006. It is only a hypothesis that there is any objection to this military element?—Not only a hypothesis; I have heard it, but in casual conversation.

3007. And can you tell me what is the ground for that; are they afraid that their boys will enlist?—I can hardly say what their grounds may be.

3008. Do they object to the certain amount of discipline that it involves?—Certainly not; they cannot object to the discipline.

3009. Not if they knew the real welfare of their children?—That is so.

3010. It is not any averseness to the disciplinary element in it?—Not so.

3011. Do you carry on any continuation classes?—No; I have no continuation work.

Playgr

3012. Do you ever attempt to encourage games amongst your pupils?—The playgrounds that we have, and the large number of children that are in the playgrounds, do not render them very suitable for such games.

3013. You have not good playgrounds?—We have a very good playground indeed compared with many of the schools in Glasgow, but still with the hundreds of children in the playground at one time, they cannot have suitable games, except running about in the playground.

3014. Has it ever occurred to you or been suggested that a general playground for the use of the schools in the poorer localities of Glasgow would be useful?—They really have such a thing, I think.

3015. Where?—In the public parks. There are recreation grounds in all the public parks.

3016. But of course you cannot have them under the same supervision that you can in your school or in your playground?—Really we have no supervision in the public parks.

3017. Have you any remedies to suggest for the disadvantages you name in your *précis*—the overcrowding of the curriculum?—I think that with the present Code that disadvantage will perhaps be gradually removed as the amount of instruction may go on for a little longer time. Instead of doing the work that has formerly been done in six years in the standards, it might go on to seven years.

3018. By the lengthening of the school life?—By the lengthening of the school life.

3019. Under the Act of last year?—That is pretty largely, I think, the tendency of the last instructions, keeping the children in the standards till they are fourteen years of age probably.

3020. Under the Act of last year?—Under the Act of last year.

3021. And a varied curriculum is rather an attraction to a pupil?—Yes; I should say that it was really the thing to stir up a pupil's enthusiasm.

3022. Certainly?—But the number of subjects are so many that a teacher has sometimes difficulty in crowding everything into the day.

3023. But the minimum number of subjects is not very large?—These are the subjects that we teach; those that I have named.

3024. I have got here the report of your school before me. You take a good many subjects you are not obliged to take up—I am saying it to your credit. I think the report is a most excellent one, and the instruction is very largely varied, but you go far beyond the minimum requirements; is not that so?—Not that I am aware of.

3025. Well, you take up manual occupations, colour work, clay modelling, cardboard modelling, as well as these physical exercises, which are developed in your school to a very considerable extent?—Yes; we give up one hour a week for this manual work, and that was because I believed it was most educative in itself.

3026. And you think a little variety in the curriculum is a good thing?—I believe in it.

3027. And that in that variety you certainly could find a good place for the physical instruction?—I have always done so. I have taught physical instruction long before it was required by the Code—since 1877.

3028. *By Mr Fergusson.*—I think you said that lately you had adopted a new plan of interspersing the physical training through the work of the day. What led you to do that?—Because I believe it to be a good thing, and because in my last report it was mentioned by the inspector that I allowed only the bare minimum.

3029. But you are only going to give five minutes; is this only done once in the course of the day?—Once per day.

3030. Do you think you could not find time for another five minutes?—Well, we might squeeze and squeeze; the time may come.

3031. As the Code is now, and with the greater freedom you have in dealing with the other subjects, you think you will be able to do it?—I would like to see what the effect of the present five minutes is.

3032. *By Professor Ogston.*—How many children have you to deal with Mr Powell?—An average attendance at present of about 1400.

3033. And how many of those would be delicate and deformed?—I should say about one to two per cent. do not take drill.

3034. Can you give any suggestion as to whether or not physical training should be applied to those delicate and deformed children?—No; I have no suggestion whatever to offer in that respect.

3035. *By Mr Alston.*—As a Lieutenant in the 47th Glasgow Company of the Boys' Brigade had you occasion to visit the homes of the children?—Occasionally.

Mr J. Powell.

13 May '02.

Boys' Brigade: their drill advocated for day schools.

3036. Did you find any opinion expressed by the mothers particularly as to the benefits of the drill and discipline?—They were at one with regard to the benefits.

3037. They never hinted at any objections to the Boys' Brigade on account of rousing the military spirit of the boy?—No; not that class of parents.

3038. And have you ever heard that objection, either serious or widespread, from the general public?—No; I have heard it casually only.

3039. Not the rule, but the exception?—Yes.

3040. Then would you approve of such drill as exists in the Boys' Brigade being allowed in the continuation schools?—I cannot speak for the continuation schools, but I do approve of the drill in the day schools. I have all along felt that I should like to carry on my boys with military drill and physical exercises after they left school, but I have never been able to see my way to carry on the drill after they leave the school.

3041. Such military drill, as we know of in the Boys' Brigade, you would like to apply in the schools?—I should.

3042. With the rifle; manual and firing exercises?—That is not essential, to my mind. I find that the boys, even without rifles, take an interest in military drill.

3043. Would the masters in the school have the same control over the boys as the officers of the Boys' Brigade Company have?—Yes, the masters of the schools would have, but there is a different feeling between the officers of the company and the teachers of a school at present.

3044. Would they attain the same discipline?—I should say so.

3045. And get the same good results from the drill and discipline as the officers of the Boys' Brigade?—Yes.

3046. *By the Hon. Thomas Cochrane.*—I see in the report to which Sir Henry Craik referred that you are described as an enthusiastic headmaster and supported by a loyal staff?—I have a very loyal staff.

3047. And you have taken a very great interest in this physical training?—Yes. I have always felt that it was the backbone to school discipline.

Physical training most beneficial.

3048. And you have watched the results of the physical training with great care?—Yes, I have.

3049. And you have come to the conclusion which you put down in your paper, the advantages in physical training?—That is so.

3050. They tend to produce straightness and courtesy?—That is rather a clerical error in the School Board offices—alertness.

3051. By straightness do you mean moral straightness?—That was not my term at all, sir—alertness, obedience, courtesy.

3052. Has it any effect on the moral qualities as well—drill?—I find it makes boys thoroughly respectful; that the boys, after getting a lesson in saluting, take that as an example; lose their Scotch bashfulness, and are only too ready to take their caps off to the teacher, and thereby it is a beginning to general courtesy.

3053. Generally, you find it has a beneficial effect on the discipline of the school?—A very beneficial effect.

3054. You have read the last paragraph of the terms of reference to this Commission?—Yes.

3055. Which says: 'Thus contributing towards the 'source of national strength'; that the qualities that are brought out by physical training would contribute to the sources of national strength?—Yes.

The witness withdrew.

Mr J. Craigen. 13 May '02.

Mr JOHN CRAIGEN, examined.

3056. *By the Chairman.*—You are Chairman of the School Board of Aberdeen?—Yes.

3057. Have you been so for long?—No, I have only been Chairman since October last. I have been a member of the Board for ten years.

3058. You have got a copy of your *précis*. I should like you just to go through that before us. I do not want you to go through actually every word that you say, but give us an ordinary statement, more or less on the lines that you have put before us, and then any questions members of the Commission may wish to put to you, I have no doubt you will be glad to answer?—Yes, my lord.

Aberdeen School Board

We have under the Aberdeen School Board twenty-seven elementary schools, one higher grade school, and two higher class (secondary) schools. These schools in round numbers accommodate 25,000 pupils.

Number of pupils.

In our evening Continuation Classes we have 4000 pupils attending; not exactly children, of course, in the continuation classes. Then I might mention that in addition to the 25,000 pupils under the School Board there are probably about 4000 in the voluntary schools in the city of Aberdeen.

History.

In 1889 we adopted a syllabus of physical education. We have handed in a copy of the syllabus. In this syllabus the exercises there given are taken from the handbook, which we also have produced, the handbook of physical culture and musical drill by Colonel Cruden of Aberdeen. In 1895 the Code contained for the first time the provision that drill, or some other form of physical exercise, would be required in order to earn the higher grant for discipline. At that time, in 1895, we had already introduced drill into ten of our schools. The number of pupils amounted to 10,500, out of 19,000 on the roll at that time; that is to say, before 1895 we had introduced drill into fully half the schools. At

Present time gymnasia.

the present time, we have gymnasia attached to all our schools except those that have about 5250 on the roll, that is to say, we have gymnasia attached to schools containing about four-fifths—nearly 20,000—of our scholars. In two years hence the number will be reduced still further, so that there will be only 2450 children attending schools that have no gymnasia. Then, with reference to advanced gymnastics, we have introduced that into five of our schools, where suitable exercises have been arranged for boys and girls over thirteen. These include the ordinary parallel-bars, ladder, vaulting-horse, etc.—all under competent instructors. We have always gone on the footing that it is not safe to have children engaged in advanced gymnastics without a competently-trained instructor to take charge of them, in case of any accident. Then, with re-

Swimming.

gard to swimming, we have already introduced this into one school, but as we have no baths or swimming ponds attached to our schools, we have to send them to the Corporation baths. These are at the sea beach, and of course while suitable for the children in the east end schools, would not be suitable for the children further west, because they would have too far to go. Swimming will soon be taught to the children in a second school. We will have to send them to the Corporation baths. We pay a fee per class for sending them there. We have to get an instructor. As it happened, in the first school we had a janitor who was an expert swimmer. He took charge of the class, and did very well, and at the end of the session they had some aquatic sports, and everything went off very well. The children take to swimming very readily, and are very fond of it, and some of our masters think it is about the best form of exercise they can have; in fact, it is the common opinion that more swimming should be introduced if we could find more accommodation; but of course it is difficult to get baths or ponds for it. As regards outdoor drill, we have introduced that into twelve of our schools. In cases where we have sufficient playground the senior pupils of both sexes go through the usual forms of drill, marching, doubling, wheeling and so forth. We think they are best to have a trained instructor. We have some cases where the ordinary teacher does it, and some of the teachers do it well. Others do not do it so well, and we require here and there to have a specially trained instructor. We think when we come to outdoor drill it is well to have a sharp strong word of command, and to have them under a man who has been trained to drill; these outdoor exercises, of course, only go on during the summer months. Then I have made a reference —I do not know that I need specially refer to it—to a communication we had in 1899 from General Chapman, and the views of the Board at that time. We give an extract from our answer to General Chapman; we produce the Board's minute on the subject. In the minute we stated that we preferred our own system. The sub-committee,—whose report was afterwards adopted by the Board,—resolved as follows:—

Mr J. Craig. 13 May

Ordinary teachers trained expert.

Board's v in 1899.

'The sub-committee, as far as its information goes, 'is not disposed to regard the displacement of existing 'arrangements by the army system as having anything 'to commend it, either in practice or results. The 'army text-book has not nearly the same variety of 'exercises as the text-book already in use in the Board's 'schools; its words of command are in many cases more 'complicated; its explanations are not so clear; and 'the musical accompaniments are treated as of little 'importance. Colonel Gildea's letter also contemplates 'the appointment of army instructors. At present 'physical education is undertaken by the ordinary staff 'of the Board's schools, supplemented by the help of 'trained teachers from the Physical Training College. 'While admitting the skill and undoubted efficiency 'of army instructors, the sub-committee prefer civilian 'teachers already practised in the handling of large 'classes of children. The former have experience only 'in the training of men who are already well disciplined, 'and whom they exercise for hours daily, and for 'months at a time. The work of a school instructor 'represents only half an hour's drill per day for each 'class, with different children to drill all the week 'through. The conditions of success in the one case 'are therefore very different from those in the other. '. . . They consider the standpoint of the circulars to 'be too exclusively military, and their lack of any sort 'of recognition of the existing order of things in the 'Board's system of physical education, approved as it 'is by the Scotch Education Department, and in many 'cases warmly commended by H.M. Inspectors of 'Schools, as fatal to the acceptance of the proposi-'tions and suggestions in their present form.'

That is still the general view of the Board on that subject. Then, with regard to the welfare of the pupils, and the advantages to be derived from the drill, we sent out a circular to our headmasters, and we have got the replies, if you care to see them; but they are unanimous in saying that the drill—even the half hour per week that the children get—is of great benefit to them. It benefits them as regards their carriage, and, to some extent, as regards their physique, as regards the order and discipline of the school, their alertness and readiness to attend to the word of command, and so on. Even the short time that we can give them for drill is of great benefit, and all the masters lament that we cannot give them more. We cannot give them more than half an hour per week, because we cannot find time for more in our time-tables. We find more in regard to the very small children; they usually have about an hour per week for drill, but above the infant standards we can only find time for half an hour, and the headmasters say they cannot find time for more. I think, as a rule, the half hour's drill is given all at one time. It is arranged to be brought in on one particular day. In some of the schools, in the infant departments, they give them ten minutes or so at a time on different days, as they can find an odd ten or fifteen minutes. We at present spend fully £500 a year on drill instruction outside the ordinary teaching staff. Apart from our own staff altogether, we spend about £500 on drill

Headm unanim advocat drill as benefici

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Instruc annual spent b Board o etc.

instructors and accompanists who play the pianos, besides supplying the gymnasia and apparatus and musical instruments. At present the Board is spending on drill instruction, outside of the salaries of its ordinary teaching staff, fully £500 per annum. This sum could be increased considerably in the interests of efficiency, and the sum does not include the Board's expenditure on drill apparatus or musical instruments, or interest on the cost of equipping its schools with gymnasia. We cannot see our way to go further at present, because we have a school rate of nearly 1s. 4d. per £, and the expenditure out of the rates has been going up at such an alarming rate of late. I may mention here that in 1892 every child in average attendance cost the rates 5s. 10d., but now, in 1901, every child in average attendance cost 19s. 1d. in Aberdeen, and our rate is close upon 1s. 4d. It has been over 1s. for the last eight years—considerably over 1s.—and we feel we cannot go further in this direction, unless we have some additional encouragement, some grant to assist us. Then I go on to refer to the advantages to be gained by the training, improving them in their carriage and physique, and all the more so on account of the mental output expected of the modern school child. They are very fond of it. The teachers bear testimony to the fact that even a meagre half hour per week of such exercises tends to correct a stooping gait or a slovenly carriage, to sharpen the ear to the words of command, and to habituate the child more readily to the disciplinary methods of school life generally. As a corrective to mental over-pressure, as a stimulus to physical development, and as an incentive to order and discipline, the value of physical education in schools goes, therefore, without saying, and the Board would welcome any prospect that offered it the means and the time to develop this side of its school work. Then we come to certain suggestions. We think that our present system in our schools up to the fourth standard—that is, up to the age of eleven or twelve—is all that is required, and we are content up to that point with such help as we can get from the block grant. But after that stage we think, when we come into the region of gymnastics proper, we require to have gymnasia at all the schools, and likewise suitable apparatus and trained instructors; and then, when we come to this stage, we feel that we require a grant to carry it forward successfully. I make certain suggestions, and first I suggest that a grant of 4s. should be given for every child trained in advanced gymnastics. These are suggestions for the future if we are going to carry forward gymnastic exercises. At present, where we go in for these higher gymnastics—that is to say, the children of thirteen and fourteen—we have to engage instructors from the Physical Training College, and we have to charge 1s. per quarter for those pupils who care to go in for this instruction, and we pay the Physical Training College the 1s. per quarter or 4s. per annum. The College provides an instructor and all the apparatus. Now, what we should wish to do would be, if we had the grant necessary to enable us to do it, to provide all the necessary apparatus, the instructors, and everything ourselves, and carry forward this work in the proper way in which we should like to see it done. But the reason that we suggest 4s. is that we are paying 4s. at present for getting the work done. The outdoor drill would be covered by these grants; it can go on as a matter of course during four months of the year. Then, with regard to swimming, where we require special instructors, and require to provide swimming ponds or bathing places, we think that we would require a grant of 2s. for every pupil between twelve and fifteen who was certified to have, by such means, acquired the art. That is in case of a development of the system. The headmasters say they cannot find time or see their way to introduce more drill or gymnastics into the schools unless the Department could lighten some part of the school work. If their time-table could be relieved to the extent of half an hour, they would gladly put in another half an hour of drill. Of course, another way to do it would be to extend the school day, but they all object to that. They say the school day is long enough at present. They begin at 9 in the junior classes, some at half-past 9, with an interval, and they go on till about 4 or half-past 4—4 I think the day, properly speaking, stops, but then there is usually half an hour for some special subject, and it takes them up to half-past 4, I think, usually before they get through the school day. Then I come to the further question—the continuation classes. Of course, there is a grant allowed under Division IV. of the Continuation Class Code, but we have never been able to go in for that grant—at all events to any extent. On the further question, embraced in the reference to the Commission, of the development 'in their practical application to the requirements 'of life of the faculties of those who have left day 'schools,' by the renewal of opportunities for physical training in continuation classes, the Board finds itself again confronted by the demands, still more imperious than in day schools, of other subjects for the full time available. A session of six months absorbing three nights per week of the spare time of young men and women engaged in industrial and commercial pursuits throughout the working day, and devoted to intellectual improvement in one or more of the varied subjects that now form the staple of continuation class study, does not open up possibilities of doing much, if anything, in the line shadowed out in the reference. But what we feel is this, that if we had better appliances in our day schools for the scholars of twelve, thirteen, and fourteen, then we would have gymnasia at all our schools; we would have all the appliances necessary at our day schools, and trained instructors where necessary. Then we could engraft all this upon the evening continuation classes; we could have the gymnastics for the boys—fifteen, sixteen, seventeen—in our evening continuation classes, and we could have the day school apparatus for gymnastics without any cost or expense. We would only have to pay for the instructors, because we would have our gymnasia; we would have our appliances for the day school and then we would only have to pay for instructors in the evening classes. In that way we could set ourselves to earn this grant which is already allowed in the Continuation Class Code, or we could set ourselves to earn a grant for gymnastics, and I think it could be done by probably having an extra day. Three evenings a week are certainly enough for young men and young women attending the classes for all the various subjects that they select under the Code, but I think they would go back probably for a fourth night for drill and gymnastics. They take to drill very readily, and if boys and girls could get first musical drill in the lower standards and then get the gymnastics higher up the school until they reached fourteen, I think it would be an incentive for them to go to the evening continuation classes to continue the drill and the gymnastics which they had got at the day schools, and the only way it could be done at present is by having a fourth night probably; that is to say, if our evening classes are on Monday, Tuesday and Wednesday, let us have say Thursday or Friday for drill and gymnastics, and then let attendance there count for the grant the same as attendance at the other subjects. That is the idea that has occurred to me in this matter. I think it practically exhausts my *précis*. I have one or two points additional. The only other suggestion—it seems to me doubtful whether it could be possible—is this: The continuation classes run from October to March, and I have been considering whether it would not be possible—of course we can merely form an opinion or an idea of it—whether there might not be a class continued in April and May for additional drill in connection with the continuation classes. Our Volunteers drill mainly in April, May, and June. I have brought the children from the lower stage up to fourteen, then the evening continuation class from fourteen, say, to seventeen, and if we could, somewhere at this stage, arrange for some outdoor evenings, or

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Saturday afternoons or some other time during these months, when a class or classes could be formed of continuation class pupils apart from their ordinary class work or school work, that would carry them on to the period when they would be joining the Volunteer forces, or not doing so as the case might be; it is not obligatory. Then there is another point with regard to that: if they did go on drilling until they were, say, seventeen or eighteen, at continuation classes there is a danger that they might not join the Volunteer force if they had to put in the usual recruit drills. I do not know if that is outside the scope of the Commission, but I should imagine that if a young man who had been drilled all his life up to seventeen or eighteen, and then put himself forward to join any of the branches of the Volunteer force, and found he had to go and put in thirty very tedious recruit drills, doing what he already knew all about, he would not like it, and I think he is more likely to go forward if he were exempted from these drills. Then there is another idea, whether it should not be necessary to have some proper college for training instructors. Our idea is that although the ordinary school teacher can do a great deal, and do it very well, you cannot really get an ordinary teacher to do the whole work. And you require a certain amount of instruction, especially when you come to deal with gymnastics proper,—the horizontal-bar and parallel-bar, the vaulting-horse, and so forth. You require a skilled man to take charge of every boy as he is going through his exercises, otherwise it is very risky. In Aberdeen we allow no lad to go on without a skilled instructor, for fear of anything happening. If they have a skilled instructor we are relieved of anxiety. We never had an accident because we put a trained man in charge. They are thirteen and over when they come to gymnastics proper. Then in Aberdeen we have Boys' Brigade, but I do not happen to know very much about them. They are attached to churches principally, and I do not know if I can give you much information about them. But one of the weak points is that the boys seem to be allowed to do pretty much what they like; for instance, I heard of a case where a Boys' Brigade threatened to resign unless they got a horizontal bar. It seemed to me the system was not worth much if it was of such a nature that they could simply just throw it up or not as they liked. But I believe it is catching on; the boys like it, and there is a good deal in that. In Boys' Brigade they get a certain amount of drill and marching out. I am not speaking to that in evidence; I am simply referring to Boys' Brigade as a matter which might be inquired into, but I am not familiar with their working.

Volunteers.

Instructors to be trained at proper college.

Experts necessary.

Boys' Brigade.

3059. *By Sir Henry Craik.*—You have considerable experience, of course, in regard to the finance of your own Board?—Yes.

3060. And as to the Day School Code and the Continuation School Code?—Yes.

3061. You indicated at the close of your evidence that you thought it would be very important that in these continuation classes there should be an extra evening for physical instruction?—Yes.

Continuation Classes.

3062. But that that evening should be counted as an attendance?—Yes.

3063. But are you aware that that is perfectly permissible under the Continuation Class Code?—Yes; that is permissible.

3064. Then you do not suggest any change?—Not any change in that respect; but what we feel is this, that until we are thoroughly equipped in the day schools we can hardly afford to introduce it into the evening schools.

3065. You suggested as a possible change that you should be permitted to count an extra evening of attendance as something that would be new—a new suggestion?—Oh, I know we have it; I referred to that. I know we have it in the Division IV of the Continuation Class Code.

3066. The Code now permits what you wish?—Yes, but we cannot take advantage of it.

3067. Then you suggested that these continuation classes would be carried on in May and June, and that on Saturday afternoons there might be meetings for drill and other physical exercises?—Well, that is the only way in which it occurs to me that we could possibly develop it.

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3068. Are you aware also that that is permitted by the Continuation Class Code, and suggested in certain of the Circulars of the Department?—It is suggested probably, but we have never been able to do it. We need instructors—special instructors.

3069. In order to do that of course you must have money; you get your money from two sources, from Imperial sources and from your local taxation?—Yes.

Financial

3070. But do you think that the contributions from Imperial resources to the local effort is too small?—Too small; we feel we have gone as far as we can.

3071. But you are aware that Parliament has considered this over and over again, and it is not the general idea that the Imperial contribution is too small in proportion to the local?—Well, we manage with a rate of 1s. 3d. and a fraction per £ to do what we are doing, but we feel we cannot do more.

3072. Do you think that the grants as far as this special part of instruction is concerned are less in proportion than they are for anything else?—Well, we have not gone into that; all I say is that our Board feels it cannot go further, or it cannot go much further, in this direction without additional money.

3073. Returning to your *précis*, you speak of the charge having increased from 1892 to 1901 from 5s. 10d. to 19s. 1d.?—Yes.

3074. Are you prepared to pledge yourself to that?—Yes, that is a fact.

3075. How much has your rate increased in that time?—Oh, our rate has not increased quite in the same proportion.

3076. Your rate is about 1s. 3d. now, and how much was it in 1892?—In 1892—I think it was just about that time—we used to have it about 10d., and then it went up to over 1s.

3077. Do you know what the average expenditure on the education of a child throughout Scotland is?—I forget; I will take it from you.

Cost of education per child: increase rates.

3078. Are you aware that it is about £2 14s.?—Well, I will take it from you that it is so.

3079. And that out of that, with the fee grant and the Imperial grant, about 32s. or 33s. is paid?—Yes.

3080. And any other resources of grant added to that, do you not think there must be some mistake when you say that in nine years your expenditure has swollen from 5s. 10d. per child to 19s. 1d., and yet that the result has only been that your rate has grown from 10d. to 1s. 3d.?—I refer, of course, to the expenditure out of the rates over and above the grants that we have been getting. The grants that we have been getting have been falling behind; we have been doing more than we have been getting from grants.

3081. I am not speaking of what you are doing; do you think that you are really spending 19s. 1d. on every child instead of 5s. 10d., and that that has only involved a growth in your rate of 5d.?—That is so. We had an abstract,—a statement of the whole thing before the Board a few months ago; I am only sorry I did not bring it along with me.

3082. That your expenditure has grown by 300 per cent. and has only added 5d. to your rate?—Of course our rating value has increased very much; every penny brings in far more now than it did.

3083. But do you really think that you would be able to prove that your expenditure has increased by 300 per cent. in nine years?—Yes, to the extent mentioned.

3084. Your expenditure out of the rates has increased by 300 per cent. in nine years?—Well, the increase is over 200 per cent.

3085. You think you will be able in the face of statistics to maintain that?—Yes, and I could give you the reasons for it. We are paying our teachers rather higher than we were, but that is only part of the increase. A teacher now is allowed to teach considerably fewer

children than he or she was allowed before. Then our pupil teachers cost us more than they did, and we are allowed to have fewer of them, and so much additional has gone for other subjects, such as cookery, and these other special things are all costing us so much extra. The expenditure per child has increased more than 200 per cent., but there is a difference between the Board's expenditure on school maintenance per child and the Board's total expenditure for which rates are levied. It does not follow that because the expenditure per child has gone up more than 200 per cent.—in other words, has more than trebled—that the school rate has gone up in the same proportion. The school rate has gone up more than 50 per cent., and the rise would have been larger but for the growing productivity of the Board's rating area.

3086. Have you ever balanced your expenditure upon cookery—that one subject—with your grant?—Well, we took cookery and one or two other subjects combined.

3087. Would you be surprised if I told you that in many School Boards they found that the grant for cookery has been to a large extent profit?—Well, I know that in several cases we have had to build cookery rooms, along with our gymnasia and other buildings.

3088. That the annual maintenance in many School Boards has not reached above the amount of our grant?—I do not think that is our experience.

3089. You spoke of lightening the curriculum. What are the subjects that the Code requires you to take up which you think might be thrown over?—Well, I really cannot say; I do not know.

3090. But how would you lighten the curriculum?—I cannot give any opinion; I do not see myself how it is to be done; we simply say unless the Department can see its way to do something we do not see how it is to be done.

3091. But what does the Department do in the way of crowding the curriculum; what does the Department demand that you think might be dropped?—Well, I cannot say; all I can say is that between the demands of the Department——

3092. But what are the demands of the Department? Will you point to any article of the Code which makes any demand on the part of the Department?—The Department does not directly demand time for all the subjects, but it places such financial inducements before managers as are tantamount to saying they cannot expect the highest grant unless all the subjects are taught or professed. The headmasters say they cannot do justice to the various subjects in less time.

3093. Then why do they not take fewer subjects?—That might be.

3094. They are perfectly at liberty to do that under the Code?—Well, they doubtless attempt all they possibly can in their anxiety to make the most of it and earn the highest grant.

3095. You spoke of some of the schools meeting at 9 or 9.30?—They begin to meet at 9—the juniors.

3096. Nine, and going on till about 4, with an hour's interval, that means about six hours?—They have an hour and a half, a good many of them.

3097. Well, say for twenty-five or thirty hours a week?—Yes.

3098. And you think half an hour is all you could get for physical instruction?—Yes, that is what the headmasters say they give them and they cannot see their way to give more. If pressure were brought to bear upon them they might manage to give more.

3099. Where could pressure be applied to them except from the School Board?—The School Board has not attempted to apply pressure; we are content with the weekly half hour.

3100. You think one-sixtieth part is the proper proportion for the physical training of the boy?—No; but we have not been found fault with for what we have done; we have given the half hour and we think we have done fairly well.

3101. But of course the pressure upon the masters can only come from the School Board?—The School Board, and the School Board has not seen fit to put pressure upon the masters; they think they have been doing just about as much as they reasonably could be expected to do in the circumstances.

Grant: something additional necessary.

3102. You suggest a grant of 4s.; do you wish to go back to the old course by which particular subjects were paid at a particular rate and not a block grant for all the subjects?—Well, I do not suppose it would matter if we had a grant that would give us something additional, but we say it is costing us 4s. just now and if a 4s. grant were given that would meet it. Having in view that it costs us 4s., it does not matter very much in what shape the grant comes if we could get something additional.

3103. You mean that the taxpayers should pay it instead of the ratepayers?—Quite so. We think the ratepayers are doing all that could be expected of them. We do not see our way to go further, and we do not see our way to throw it on to the rates, and we are just content to go on as we are doing unless we are asked to do better in the matter of physical drill.

3104. But do you not think that out of a total expenditure of £2, 10s., if the taxpayer gives you about 35s., he is doing about as much as he ought properly to be called upon to do?—Well, the ratepayer looks at it from the point of view that his rate is 1s. 3d. or nearly 1s. 4d., and no chance of it being less as far as one can gather; and of course if it were not the question of the development of this subject, which we are all interested in and which we should like to see developed, we would be content to go on pretty much as we are doing and with the rate as it is, and if we are asked to do more we simply say candidly we cannot do more unless we get some help from some other source.

3105. Or cutting out some other subject?—That would not meet it. Cutting out some other subject would meet the extra half hour of ordinary drill say up to the fourth standard under twelve, but we come to the question of larger gymnasia, gymnastic appliances, trained teachers; and while we are going so far in that direction we are not going so far as we see it is possible we might go if we had some higher grant.

Training of teachers: Aberdeen Physical Training College: no classes under Department.

3106. But have you no means for getting your teachers trained?—Oh, yes.

3107. Have you a class for the training of teachers?—Oh yes; we have a Physical Training College that supplies us with teachers.

3108. But have you no class of your own for training them?—Well, we have never gone in for that.

3109. Why not?—We get them trained so readily in this college.

3110. But you pay for that?—No.

3111. Are you aware that the Department will give you three-fourths of the expense of training them if you train them yourselves?—Yes; well, I think it has been suggested; there has been some talk, and probably we might have gone in for that if it had not been that we had that college?

3112. Towards which you pay a large sum?—Yes, we pay in fees.

3113. And you get no assistance from the Department?—We do not pay for the training of the teachers; the teacher goes and takes classes there in preparing for being a teacher.

3114. Who pays?—The teacher. The teacher goes to the Physical Training College, attends his classes there, and takes his certificate.

3115. And you do not pay for it?—No.

3116. Why do you complain of the difficulty of getting trained teachers?—We have to pay the instructors that we engage from the college. Our own teachers, although they get a certificate from the Physical Training College as part of their equipment, are not all suited for drilling.

3117. But suppose you want to train your teachers, and the Department offers you the giant's share of the expenditure of doing so, why have you not used that opportunity?—Well, I can only say it is just because we have such good instructors ready at hand from the Physical Training College that we have been willing to pay them for their work when we required them.

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3118. I am not speaking of paying them for their work. You say the difficulty is to get teachers, and I tell you the Department offer the opportunity of training these teachers, and offer to pay three-fourths of the expense; you have not used that?—No.

3119. Instead, your teachers go to a private institution?—Yes.

3120. And they have to pay heavy fees?—Well, I do not think the fees are very heavy. What they get there is a certificate that they have attended a certain course of drill and they are qualified to teach drill, but when we get them we occasionally find they are not very well qualified to teach it, and in order to keep the drill up to the mark, we have to go to the college and get a certain number of expert instructors, and put them on to the higher departments, and set them to work here and there. But a good many of the teachers who have attended classes at the Training College do their work very well, just practically as well as the trained instructors of the College so far as drill is concerned.

3121. *By the Hon. Thomas Cochrane.*—I suppose you have visited some of those schools when physical drill is going on?—Yes, I have visited some of them.

Physical drill: generally well done: distinctly beneficial.

3122. Can you speak as to its general efficiency?—Yes; oh yes. It is generally well done. There is a danger in the ordinary class teacher sometimes being a little slovenly. The expert instructor that we get from the college does it remarkably well, and a certain proportion of our ordinary teachers do it well.

3123. And the general results from your observation?—Oh, the general results, as far as they have gone, are satisfactory. There has been an improvement in the smartness and the carriage of the children. Every headmaster says that it has done a great deal of good already, but they would like to see more of it.

3124. That is the unanimous opinion of the masters?—Yes, unanimous.

3125. That it has done good to the pupils?—Yes, distinctly.

3126. And even your opinion, as an observer, is that it could be extended still further with advantage?—Yes.

Outdoor drill.

3127. Have you seen some of the outdoor drill you spoke of which takes place in one of your schools?—Yes; I saw it in one of the schools—King Street School.

3128. Could you give me the nature of it; what sort of drill it is?—It is just pretty much what I had as a Volunteer. Of course that is now twenty-five years ago, but it is just the ordinary drill in forming fours, marching, marching at the double, and wheeling, and so forth.

3129. Do they like it?—Oh, yes, they like it; they are very fond of it.

3130. There is no objection from the parents as to the military nature of the drill?—Oh no; not so far as that stage goes, not that at all events.

3131. They do not fear that in the schools the children are being taken out of the hands of the Prince of Peace and put into the hands of the man of war?—Oh, we hear murmurs occasionally that we are introducing too much of the military spirit, and we have a minority of the Board who think that we are just going far enough, but as far as we have gone we have been unanimous.

'Outdoor physical exercises' equivalent to 'military drill': objections to latter.

3132. You have found it on the whole very beneficial?—Yes. When the question of military drill came up a year ago we called it outdoor physical exercises, because some of the members objected to call it military drill.

3133. You saw the benefit that was conferred upon the children, and you wished hard to avoid any objection on the part of the parents?—Quite.

3134. And alarming them?—As far as we have gone there is no objection practically; whether there would be any if we were to go much further it is hard to say.

3135. I see you talk of the Standard IV. and the Standard V.; that is a little antiquated description—Yes.

3136. You mean children of a certain age?—Yes.

3137. What age Standard IV.?—Standard IV. would be about eleven.

3138. Standard V.?—Standard V., twelve or thereby.

3139. And you spoke about courses of some advanced gymnastics extending over the remainder of the child's school life?—Yes, after about twelve say, the last two years or so of the elementary school, children of thirteen or fourteen; they are prepared to go in for something more of the nature of gymnastics. They get tired of the ordinary musical drill; it gets monotonous; but they are keen to have gymnastics. But when they come to that age we charge them 1s. a quarter. If there are as many in the school as will make a class they pay 1s. a quarter, 4s. a year, and we hand that 4s. a year to the Physical Training College, and they supply instructors and apparatus.

3140. And the children do this thoroughly?—They do that thoroughly.

3141. In any large numbers?—Oh, well, considerable numbers. We only have it in, I think, five schools. I think we will introduce it into a sixth very soon. The exercises laid down in the syllabus lodged are supplemented by some advanced gymnastics suitable for boys and girls of thirteen and over, including horizontal bar, parallel bar, bridge-ladder, and vaulting-horse exercises, under competent instructors.

3142. Do considerable numbers of pupils take it although they have to pay for this instruction?—Yes.

3143. Showing that it is popular?—Oh, no doubt it is popular.

3144. With them and their parents. Then you spoke of continuation schools?—Yes; in continuation schools after they have had their year or two of the gymnastics in the day schools we wish them to attend the continuation schools when they are fifteen and sixteen and seventeen, and where they get other subjects, all the usual subjects of continuation schools; but then if we had a night for gymnastic exercises they could go straight on from the day school into the evening schools and go on continuing the work which they had had, and we feel that if our day schools were properly equipped in this direction we could get all the apparatus of the day schools in our evening schools. It would be much more easy taking it up and less expense in the evening schools if we had our day schools better equipped.

3145. Then there must be a considerable class of young lads and girls too who do not attend the continuation classes?—Oh yes, that is so.

3146. And would physical exercise be of advantage to those also?—Well, of course it would be open to them to come and take these classes; they can come and take such classes as they like; they might come and take the gymnastic classes along with some others.

3147. Are there any idlers in Aberdeen who are unwilling to go to any kind of class or submit to any kind of discipline?—Oh yes, no doubt there are. We have 4000, which is a fair number, at our continuation classes. There are a good many more who might come if they chose. There are a good many who run after football matches and that sort of thing, who do not care for classes to improve themselves.

3148. Have you any what they call Hooligans—any wild, ruffianly fellows?—Well, not many of them. There is a great craze for football matches and that sort of thing. They run to see them and take a great interest in them, but I do not think we have very much of the rough element.

3149. Not much of the rough element?—No, and this 4000 stick to their work with a considerable amount of earnestness and attention, and do remarkably well.

3150. But you would not object to see all young fellows when they are growing between fourteen and seventeen or eighteen, subjected to a short period of physical exercises?—Oh, I think physical exercises are very good for them.

3151. It would do them a lot of good and no harm?—Quite so.

3152. *By Professor Ogston.*—Have you a medical

officer to the Aberdeen School Board?—Well, I do not think we have. We have a medical gentleman who attends to cases when he is specially instructed. Dr Rose does some work for us, but it is only as we specially instruct him. If there is a case of excuse for non-attendance, and the question of medical certificate coming up, if we are not satisfied we send a medical officer—Dr Rose—to examine the child; cases of that kind, but we have no regular medical officer. We have no one to examine the children, for instance, in connection with gymnastic work or anything of that kind.

3153. Have you had much need for a medical officer?—No. Whenever a lad states that he does not wish to take drill he is just marked off. Whenever the parents of any boy or girl state that they do not wish him or her to take gymnastics or drill, or anything of that kind, the teacher just marks him or her off on the register, and the boy or girl is not asked to go; for any weakness or if he is too delicate to take the exercises—or for any reason of that kind.

3154. Did you ever have under the consideration of the Board the appointment of a medical officer?—No; I do not think we ever seriously had.

3155. And have you any idea what amount is expended *per annum* in paying this gentleman who acts?—Oh, it is very little; it would only be a very few pounds. I could not say how much it is, but it is very small.

3156. So that if a medical officer became necessary in connection with the introduction of physical training, it would be a new source of outlay to you?—Yes.

3157. A considerable source of expense?—Oh, yes, if he had practically to examine every boy who went in for gymnastics.

3158. You would require a man of a very high class?—Oh, no doubt we would require a first-class man.

3159. And provide him with a correspondingly good salary?—He would require a pretty good fee; he would be doing other work likely, but he would require a pretty good fee if he had a retaining fee for all our work, or even if we paid him per head.

3160. By results?—Yes.

3161. The next thing I want you to give us some information about is, you have incurable children in Aberdeen to deal with under the School Board?—Yes.

3162. They are mostly in a ward of the Incurable Hospital?—There are a few there, I think.

3163. And them you provide with teaching?—I am not aware of that. Do you state that as a fact?

3164. Oh no; I ask it as a question?—No, I think not.

3165. Of course you would recognise it as a duty of your Board to teach children who are incurable?—Yes. We have had an inquiry lately about the number of lame, cripple children who had to be attending school, to consider how we could get them taught, and we deal specially with blind children and so on; but I do not remember of any children being taught in the Incurable Hospital at the present moment.

3166. Then about the weak and deformed children: how many did you find were under your management?—I do not remember the number; it was not a very large number. Of course they were of different degrees.

3167. Would you have 1 or 2 per 100?—I think, perhaps, 50 out of the 25,000. That is only about 2 per 1000.

3168. Do you give them physical training?—No, I do not think we do; no.

3169. And you have not any special information to give to the Commission regarding what you would recommend as physical training for those weaklings?—No.

3170. How do you teach girls swimming under the School Board?—We have only had one class from Hanover Street school, and I am not quite certain—I was not able to get down to their gala—that they are not all boys.

3171. So that really there may be no girls in Aberdeen being taught swimming?—I shall inquire as to that. There is just one school had a class of about 60.

3172. You have no female instructors in swimming?—No; and that is what makes me think it was only boys, because it was the janitor of the school, who was an expert swimmer, and took an interest in it, and attended to them; so if we had girls, we would have required to have had a lady, I imagine, to attend on them.

Gymnastics: seldom given to girls.

3173. You give to girls gymnastics, I notice?—Well, we say gymnastics suitable for boys and girls of thirteen and over, and we will be giving gymnastics soon to the girls attending the High School; but I think we have done very little as yet with regard to giving gymnastics to girls.

3174. Have you had before you specially the necessity of dressing the girls for gymnastics?—I think it is only in the High School that we have been contemplating the gymnastics for girls. There is no doubt that would have to be kept in view.

3175. About dancing: do you teach dancing under the School Board?—Well, we have teachers of dancing who go to the schools, but it is an extra subject, and the pupils pay a small fee.

3176. So that it pays itself?—It pays itself.

3177. *By Mr. Fergusson.*—I think your Board, if I understood you right, is very much impressed with the advantages, from every point of view, of giving physical training?—Yes.

3178. And they would like to give more than they do at present?—They would like to give more; yes.

Time allotted to physical instruction: teachers' views: reasons.

3179. But teachers say they cannot find the time?—Yes; every teacher says so. I have a bundle of replies here.

3180. Do not some of the schools give more than others?—Oh, very little. Some manage to give a ten minutes more.

3181. You think nobody gives much above that half hour?—No; some give only twenty minutes.

3182. You have no means of comparing a school that gives an hour with a school that gives only half an hour?—No, we have never been able to do that.

3183. In this present Code, teachers have got a pretty free hand compared to what they used to have; do you think it may be when the teacher sees that more attention is paid by the inspector to reading, writing, and arithmetic, and so on, and not very much attention to the physical training, naturally the teacher wishes to devote most of his time to the reading, writing, and arithmetic?—Yes; I expect that is their idea.

3184. If it was known that physical training was a subject on which the Department would require a greater knowledge, then the teachers would find means to devote a little more time to it?—Of course. I do not know as to the latter part of the question.

3185. You think it is impossible, that they have not got the time?—The teacher says he can only give more time to drill at the expense of some other subject.

3186. If I was to produce to you schools which give three hours instead of half an hour per week to physical training, and in reading, writing, and arithmetic their attainments were just as high as your schools, would not that rather shake your opinion of what your teachers tell you?—It would make us go for our teachers, and ask them to look into the subject.

3187. I notice in this appendix to your *précis*, your Committee did not like General Chapman's suggestions?—That is so.

3188. In their rejecting that, was there any idea of its being a military organization that was being put upon them?—There perhaps was a little of that in the minds of certain members of the Board, but the whole of us were of opinion that our own system of drill and gymnastics was preferable to the system that was proposed. We liked our own book better than the army book.

'Physical training' more generally acceptable than 'military drill.'

3189. You have noticed that if the military idea is cut out, physical training finds more universal acceptance than if military drill is always insisted upon?—That is so.

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3191. And you would be in favour of dropping that and treating it as physical training?—Yes; if you call it military drill, it sets up the backs of certain people to begin with, and you do not know exactly where you are.

Feeding of children: action by School Board.

3192. Have you many badly-fed children in your school in Aberdeen?—Well, not very many; we have means for feeding a good many of them.

3193. Will you tell me what these means are; what do you do?—Well, of course, it is outside the School Board.

3194. The School Board pay no attention to that whatever?—Yes; well, the School Board got up statistics by issuing a circular to the headmasters and asking how many of the children attending their school they considered underfed. The reports were sent in and we submitted them to the various agencies. We have an Educational Trust, a branch of which is a feeding school, and where about over 400 children get free meals. These are the children of parents in necessitous circumstances, but not in receipt of parochial relief: those who are out of work temporarily and so on. They have to fill up a schedule and send it in, and we take in their children and we feed them there, and they are always coming and going. We feed 400, three meals a day under this trust. That relieves the School Board and feeds the children to a considerable extent. When we found how many underfed children we had we inquired how many could be fed by the educational trust, and we got the trust to feed as many as possible. Then we found on inquiry that a certain number of them were in receipt of parochial relief and we called the attention of the inspector to them.

3195. At any rate, you took steps to find out about the children?—We did, and we felt as a Board that the only thing we could do was to try and find means for getting them fed through other agencies.

3196. And were your efforts successful to a large degree?—Yes; to a large degree.

3197. And do you find the good results?—Oh yes, we find that there are very few children attending the schools who are underfed, or who, if they care to make application, cannot get fed.

3198. I suppose you found that anything of that sort would tend to increase your attendance?—Oh, no doubt.

3199. And you depend on your attendances for grants?—Oh, yes our attendance officers are very useful in looking after these cases and trying to deal with them.

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3200. *By the Chairman.*—What is your opinion, please, as to the utilization of Saturday more than it is at present, and specially, say, for physical training or games?—Well, Saturday is the off-day of all the schools, and they have their cricket in summer and their football in winter.

Saturdays against interfere with hol

3201. But only by themselves, not under any supervision?—Their games are not under any supervision.

3202. And what is more, the teachers generally have a conference, do they not, on Saturdays?—Oh, I think they have a holiday pure and simple on Saturday.

3203. But they do have conferences occasionally?—Oh yes, occasionally on Saturdays.

3204. And very often necessarily are out of the way?—Yes.

3205. You do think that Saturday would be unpopular if you were to utilize it as a compulsory day for anything?—Yes, I'm afraid it would.

3206. And yet, what is your opinion about children loitering about and doing nothing on Saturday; is that good for them?—No; only they go away pretty early, I think, to their sports and so on; they have matches on.

3207. Every child does not go to sports, I suppose?—Well, every healthy-minded child goes in for sports—more or less.

3208. Therefore you think it would be a great shame to cut into these sports as existing, especially cricket, in the summer?—Oh, I think so; I do not think I would interfere with the holidays.

Parents' opinions influence

3209. Now, you said something about parents' opinions; do you consider that parents' opinions are of great force in these days with the children, or with those between fourteen and eighteen in Aberdeen?—Well, perhaps, it is not very easy answering a question like that. You mean how far those from fourteen to eighteen in Aberdeen are under the control and management of their parents?

3210. Or how far the parents can influence their children's actions?—Oh yes; as long as the children are at home, or the young men are at home, the parents still have a considerable influence and control over them.

3211. Therefore you consider parental opinion is very important as regards any change in the law and regulations as regards any of these educational matters?—Oh, yes.

The witness withdrew.

Mr H. F. M. Simpson, M.A.

Mr H. F. Morland Simpson, M.A., examined.

Mr H Simps

3212. *By the Chairman.*—You are the Rector of the Grammar School in Aberdeen, which is under the Aberdeen School Board?—Yes.

3213. Have you got your *précis*? Would you just go through it shortly, or make a statement from it? You start by saying you are a native of Newcastle-on-Tyne?—Yes.

3214. You were educated at Harrogate, Oundle, and Pembroke College, Cambridge, a member of your school XI. and XV. and of your college XV. and 2nd boat; B.A. (1st class, classical tripos) 1882; since then private tutor in Germany (1882); assistant master at Marlborough College (1883), and at Fettes College, Edinburgh (1883–1893), and after that you went to where you are now?—Yes.

Aberdeen Grammar School: description.

The Aberdeen Grammar School is a day school for boys, present numbers about 450, including elementary, middle, and upper schools, the last two regarded as secondary, ages ranging from four and a half to over twenty. The upper school is divided into (1) a Modern, or Science and Art side, ages thirteen to seventeen, and over; and (2) a Classical side, preparing for the University, to which it sends some thirty students annually. Many of these join the University Volunteers (Gordons and Medical), and are prominent in University games and athletics. A Former Pupils' Club, founded in 1893, now numbers over 400 members, and has done much in this and other directions. Its main objects are 'to promote social 'intercourse among its members, and to keep them in 'touch with their old school.' Then I give statistics as to the ages of boys attending the school:—

	14–15	15–16	16–17	17–18	18–19	Over 19	Total
In June 1900	57	86	59	19	10	5	236
In June 1901	69	56	61	21	11	6	224

These I supplied chiefly with reference to the last paragraph on the question of a cadet corps in the school. The school serves all classes, from the richest to the poorest citizens, and offers many bursaries, and about fifty free places to poor boys. It is mainly a town's school, but also attracts a large number of scholars from the northern counties, some of whom board in the town, and others come in and out by train. The physique and previous training of the latter was a point upon which I might speak, if it interests the Commission, as a comparison between boys in town and country. The country boys reach us at a somewhat later age than the town boys. Naturally, they are trained in their own schools, as far as those schools would carry them; and as far as I have observed, though they are naturally, and as one would expect, of a healthier physique than the town boy, they are not trained to games and athletics,

Town country compa

drill and so on, to the same extent as in the town, probably from the want of appliances, etc., and also because physical training is perhaps not recognised as so necessary in the country schools. They are of a somewhat heavier build as a rule than the town boys. The kind of country lad we very often get is one who has shown he is a lad of unusual parts in the village school, and has come in with the sole purpose of pushing on to the University. He is a boy who sometimes sacrifices his physique completely, in some cases disastrously, to the need of getting on to the University. It is his sole object, as a rule, at school, and such a boy brings very little to us socially, to the school, and takes very little part in our games. Of course there are exceptions. He is probably intending himself for the ministry, or whatever the University may open out to him. I have already said that the school trains boys of all classes of the community, but if one were striking an average I should say probably the main bulk of the boys are of what one may call the lower middle class, very largely consisting of tradesmen's sons in the town, and the very low scale of fees enables such and even comparatively poor people to send their sons to it. That is what I referred to in speaking of the school's social status. It would perhaps hardly be fair to compare a school of this kind with the so-called Public Schools of England, where the pupils come from a wealthier class of society, and are more entirely in the hands of their teachers for training. I refer to boarding schools. I am not familiar with the English day schools so as to institute any comparison there, but possibly any comparison I should make between the Grammar School of Aberdeen and an English Public School would to some extent hold good as a comparison between an English day school similar in type and the so-called Public Schools of England. The physical training in the school—The only compulsory physical training we give is gymnastics for one period a week, which is more or less an hour in duration. That is given throughout the school with the exception of the two highest classes, where the boys have an extra strain put upon them in the way of preparation for the University, and those of them who come from the country at a late age have not had the previous training to take advantage of the class in that subject. The instructors are experts provided by the Aberdeen Physical Training College, and follow the system or syllabus of the Board. The value of it physically and morally I place high, but inadequate, because I do not consider one lesson a week sufficient physical training. The school stands in its own grounds, and there are about 7½ acres of ground, somewhat irregular in shape, the buildings being planted in the middle of it. The actual ground available for football is about three acres, in a long piece hardly large enough to make a full-sized football pitch; and with 400 to 500 boys playing constantly over this ground, it is impossible to get anything like a good cricket pitch on it, though they do play cricket on it, as many as ten or a dozen games at a time. The members of the middle and upper school each subscribe 1s. a quarter towards the expenses of games, which is found to cover all we can spend on such a limited playground. Then there is besides a swimming club, with a small fee charged to members. Last year we had forty-five members. Once a year we hold athletic sports, which draw very well in the way of entries. As to the value of these sports, they are too occasional, and inferior as a discipline, because a boy in athletic sports is 'playing to his own bat' entirely instead of playing for his side. An ordinary healthy boy does not require special training. Excessive training for athletics would probably be bad for him. I think if any system of athletic sports could be devised extending them over the school course, instead of once a year, it would be an improvement. On the whole, I may say with many exceptions, these games are joined in heartily and played with spirit. The staff of schools of the Grammar School type does not, as a rule, embrace men physically trained to take an active part and interest in school games. The Board appoints the members of the staff, and my experience is that their qualifications as to whether they are cricketers or football players, or take a direct interest in the games, are hardly ever inquired for. As to my opinion on the military instructor, I should prefer that the staff of the school should consist of qualified teachers, each of whom is capable, or should be capable, of taking his own class in drill, because I think he has a better grip of the class than a mere visiting master, and the merely military instructor is often somewhat rough in his methods with boys. That has been my experience of them, and that their discipline is sometimes defective in consequence, perhaps, of certain tricks of speech, roughness of manner, and so on. Generally speaking the gymnastics, including drill, are popular with the younger members of the school, but I have found cases where they become very unpopular with older members, owing to a certain distaste, partly due, perhaps, to the fault of an instructor, and partly due to a sense of awkwardness in boys who have not had the training of the classes below, in taking that particular work. With regard to our comparatively small contribution to the direct service of the State, that is a point which is of interest perhaps in connection with Volunteers and cadet corps. I have seen various statistics of the large number of old boys who have gone to the front from this and that school, from Fettes College, for instance, which is a comparatively small school in numbers compared with the Grammar School. But the boys of a school like that represent a different class. They are mostly boys who enter the army as officers, and can afford to do it. Our *clientèle* consists of a class which cannot afford to be officers, and is too proud to enter the ranks as at present, so that really we have a very small number at the front, and it has been somewhat of a disappointment to me to find it so. I think, in fact, that the class chiefly represented in our school—the middle and lower middle classes—are not doing their duty to the State in direct service to it as compared with the upper classes and the common people. The question of a cadet corps is entirely one of means, of money. At various times I have had this matter before me, more particularly of late. I have made inquiries as to the expense, and have come to a very definite conclusion that if it were to involve the pupils and their parents in any expense, it would be very inadvisable to introduce it into such a school as ours. If we introduced a cadet corps into our school, costing them, say, £2 to £3, or £4 per head *per annum* for outfit, ammunition, and so on, it would probably result in driving a great many boys away from the school to places where there was no such institution to add to expenses. We hesitate to start a corps, not from any distaste to the thing itself, but simply on the question of ways and means. I think a cadet corps, if the means were found, would be exceedingly popular, and I should regard it as a very valuable thing in such a school.

Cadet corps: a question of money.

3215. May I ask you how long you were a private tutor in Germany?—Nine months.

3216. Travelling or in one place?—No, I was mainly in one place, with a son of the late Sir John Fowler, the engineer.

3217. Was your attention much called in Germany to the system then prevailing there?—I have seen a good deal of it then and since.

3218. I mean enough for you to take notes and contrast them with anything in this country?—Oh, yes; I knew a number of the primaner or senior German boys in the local Gymnasium (secondary school), and since then I have made the acquaintance of schoolmasters who are particularly interested in physical education; Professor Raydt, of Leipsic, for instance, who was sent by Bismarck to make a tour of inspection in our English and Scotch schools to study this very question. He stopped a week with us in Fettes College, and I have visited him since in Germany and have kept up some correspondence with him since

3219. He came over principally to look at games, I suppose?—Entirely; that was his mission—the English system of physical education.

3220. But he did not go to Board Schools, I pre-

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sume, or grammar schools, did he?—No; I do not think he saw anything of them.

3221. Nothing but the higher class public schools?—Yes; how he came down to Fettes I do not know, but it had a great reputation for football at the time.

Town and country lads: physique: no records.

3222. *By the Hon. Thomas Cochrane.*—You compared the physique of the country lads who came to you and the town lads. I think you said you could not draw any exact conclusions?—Well, I should be disposed to say that the country lad is physically better material, but the town lad is better trained.

3223. And as to development at the same ages?—Well, I have not statistics on that point. I think every school should keep a register of physical development, but there is none.

3224. We have had various evidence from different observers, some saying that the town lads are nearly as well developed where they have had physical training as the country lads?—I should not like to give a definite opinion upon that.

3225. *By Mr Shaw Stewart.*—I gather, Mr Simpson, that there is no considerable system of physical training at your school at present?—No.

Physical training beneficial.

3226. And quite apart from the military aspect of boys serving their country afterwards as soldiers, I suppose you would consider it a very good thing if physical training were more generally exercised in schools?—Yes, certainly; I think they would gain mentally very largely, and in discipline enormously.

3227. And do you think that a certain amount of time which is now devoted to lessons might be profitably given up to a systematic training in physical exercises every day?—Well, the pressure of subjects in our time-table is very great, and in the day school our time is limited by a number of boys having to catch a certain train to get away. The only day school I know of where the experiment of compulsory games has been made, and successfully, is the Edinburgh Academy, but there again you have a class of boys somewhat higher in the social scale, and therefore—it is perhaps a little paradoxical—more amenable to discipline.

3228. I was not referring so much to games as to physical exercises on a system, and what I should like to put to you is this, if you could devise a system of physical exercises for a short period daily although that might diminish some of the time devoted to learning, would not the mental as well as the physical results in your pupils be better at the end of the year?—I think certainly we should get better mental results if we could get more physical training into the boys, but I do not think it would be necessary for that purpose to sacrifice any of our present time-table devoted to other subjects. I should be disposed to lengthen the time-table in order to meet this need, and let those come who can.

Time-table might be lengthened.

3229. But how would you get your time?—Well, our school day, Mondays to Fridays, is 9 to 1 and 2 to 4. Boys up to thirteen years of age are in until 3 o'clock in the afternoon. This exercise would be practically 'games' to them, and might be taken chiefly out of doors. I do not think it would be any hardship to those boys to carry them on till about half-past 3 or 4 o'clock. The hours for the juniors are certainly shorter than in the elementary schools.

3230. *By Mr Fergusson.*—You say your physical training is inadequate?—Yes.

Physical exercises should be given daily.

3231. Do you give less physical training than the elementary schools?—No, rather more. Our period once a week is longer, but what I mean is that one lesson a week is very insufficient; it seems to me very much like one meal a week, and that a boy should be getting exercise every day.

3232. You have no time, you say, to do it every day?—Well, we must leave it very much to their natural instinct to play. They do get play, a good many of them, in the form of cricket and football.

3233. Yes, but I mean physical exercises?—I should not consider it necessary to have drill every day.

3234. I do not mean drill, but just the ordinary exercises, to develop the chest and so on?—If the teachers were all trained to it and had to have a certificate enabling them to take it at any odd five minutes in the class, the class would be very much brightened up by it. I know that by experience.

3235. If that was a matter that was looked into more closely by inspectors, of course managers would take care that they had people to teach this subject?—Yes.

3236. And so things might be expected to work better?—Yes.

3237. If it was known that the Department wished it, it would be more practised?—I understand from their reports that inspectors do, in fact, look into the question of drill and physical training in the elementary schools, but in a school like ours it is never inquired for by the inspectors.

3238. They never look at your physical work?—No.

3239. Do they report upon it?—In our lower school, which is very much on the footing of an elementary school, it is reported upon for the infants and juniors if they happen to see it, that is to say, if the teacher says:—'Would you not like to see them do some drill?' and takes them in it, but the ordinary gymnastics in the school are never looked at.

Cadet corps undesirable: compulsion.

3240. Do you think you could not work a cadet corps unless you made it compulsory? You get over the difficulty of parents objecting to pay the money if it is compulsory?—I am afraid it would die a natural death in that case. They might take it up with enthusiasm just now, but after the war fever has passed over, the burden of it would fall very heavily on them, and I should not like to introduce a thing which a boy might feel some compulsion to join, and yet which his parents might find a considerable hardship. The effect of that, as I said, would be to keep a considerable number of boys away from the school, and send them to rival schools, cheaper schools.

3241. You think it would be a real hardship; it would not be that they would merely not choose to spend the money?—No; even our low fees, which amount to a maximum of £7 a year, are a great strain upon many of the people.

3242. *By Mr Alston.*—Do these figures in your *précis* refer to the upper school?—And part of the middle school. I took the age of 14 because I thought that was the age at which they would join a cadet corps.

3243. Then you approve thoroughly of the increase of physical training in the school?—Yes, certainly.

3244. You distinguish between the physical training and the drill and training of a cadet corps?—I should consider the drill and training of a cadet corps as part of the physical training.

Cadet corps objects.

3245. Then do you wish to add a cadet corps to the school in order that you might get more and higher physical training?—That would not be my object entirely. I think it is the duty of these schools, inasmuch as they are State schools, to train the boys to take their part in the defence of the country. That would be the first object of the cadet corps, and the physical training second to it.

3246. Then probably it would be from those boys in the upper and middle schools, namely the 224, out of whom you would form your cadet corps?—Yes.

3247. Then probably that corps would not exceed 100 boys?—If all the boys joined I think we might put them down at 200, excluding the physically unfit.

3248. As the cadet corps of the school?—Yes.

3249. You indicated that the expense might be £3 or £4 a year?—Yes.

Cost prohibitive.

3250. The first cost for uniform outfit stands, that is not repeated?—Well, a growing lad will soon grow out of his uniform between fourteen and eighteen; he will need a change.

3251. It is to be hoped it will be the kilt?—Kilts certainly—the Gordons.

3252. The subsequent year's expense would not be so great—a little for ammunition?—My inquiries amounted to a good deal on these heads.

3253. Is that so?—Yes; I made inquiries of a friend of mine at one of the English public schools where there is a cadet corps, and his advice was very

strongly against doing it unless you could do it well, which means a question of expense. He put the uniform at about £3, and I think I may state that the boy would have to undergo that cost at least twice between the ages of fourteen and eighteen; he would soon grow out of his uniform.

3254. Do you think that in the case of the 200 boys who would probably form your cadet corps, the parents would find the expense a burden?—Well, that is practically all the available boys of the school, and a great many are so poor that every additional pound is a hardship.

3255. Suppose there were only 100, would that objection still remain?—I should be afraid of keeping away boys from the school because there is the possibility of them wanting to join the cadet corps; they are eager to do it because perhaps it is the thing to do, while the parent, finding it a great strain, would rather send them off to some other school, a rival school in Aberdeen.

3256. Do you think the expense would be a fatal objection?—A very serious one. I have no doubt the thing would be joined with enthusiasm at first, but these troubles would tell in the long run against the corps.

3257. *By Professor Ogston.*—Your school is one very peculiarly situated, is it not; you have few schools throughout the country to which it could be compared?—Only the other burgh schools of Scotland. The High School in Edinburgh, the Glasgow High School, and so on, are very much on the same footing, and Dundee.

3258. Do you not train a great many more lads to enter directly into the University than is usual in such schools?—I am not familiar with the case in Edinburgh; I think it certainly is true as compared with Dundee.

3259. You do train a great many, do you not, who enter the University directly?—Yes; out of about every hundred who leave the school annually, we reckon twenty-five to thirty go to the University.

3260. And you have made, I think, very strenuous efforts to improve the school under your charge, particularly in the way of introducing physical training?—Games generally; yes. The physical training, as gymnastics and musical drill, existed in the school before I came. That was introduced by the Board.

3261. But you have been interested in this matter, and made distinct efforts, have you not, to do what was in your power?—Yes, I have endeavoured to organize the games in the school.

3262. And yet you are not satisfied with what you have succeeded in doing. You have been baffled, have you not?—Because I see so many boys who, in my opinion, are quite physically fit to take their part in cricket and football and so on, just loafing away, not joining in the games at all, and sometimes discouraged by their parents from taking a part in the games.

3263. And you think it would be better for your school if compulsory physical training were generally introduced?—That would have to come as something required of us from above. I do not think that any school or perhaps any School Board is strong enough to do it. It would be looked at by the public somewhat askance at first.

3264. I do not quite understand. Would you welcome it or not being introduced into your school and other schools similarly situated?—I should.

3265. You mentioned that country boys, I think you said, sometimes injure their health by over-study?—I am speaking of the kind of boy who comes in to get a bursary at the University, for his last year or two's training in town. These are often boys who have to live very hard on very little means, and practically spend their whole time in 'grinding' for their bursary, their one end and aim in life. They cannot go to the University unless they get it, and I have observed cases where their work has told very heavily on such boys. They have not looked the same boys at the end of a school term or session as when they came fresh from the country.

3266. You have found it killed or permanently injured them?—I do not know enough about their subsequent history to say that. In only one or two cases have I known of it doing them serious injury, to be certain of it.

3267. And you think that a compulsory physical training would tend to prevent this?—Well, there is more in the question with regard to those boys. Some of them have to live on very insufficient means, and if they had to have compulsory training, you would have to devise some system of compulsory feeding too to meet their case.

3268. Then your school is really peculiar in that respect. You might be using a two-edged weapon if you introduced compulsory physical training?—Well, it might be taking too much out of them.

3269. Do you think that compulsory physical training would injure their mental requirements when they intend to enter Universities?—Speaking of these peculiar boys?

3270. Of your boys, yes?—No, I think they would be the better for it. My experience of boys at Fettes was that they could work longer hours and produce very excellent results, while at the same time taking a great deal more out of themselves physically than our boys do as a rule.

3271. Could you tell me in a few words what is the essence of the Stockholm system which you approve of?—The allusion in my *précis* is in reference to a central institution they have in Stockholm for the training of teachers, who, as I was informed, are men of a social standing in the schools quite equal to that of the rest of the staff. I am not prepared to give you the details.

3272. It refers to the principle of getting high-class teachers?—Yes, and recognized by a Government institution.

3273. Have you any suggestion to make regarding the physical training of ailing, weakly boys?—No; that is a question for their homes in the case of day boys, unless Boards appoint a doctor, who should say whether such and such a boy is fit to take games or not.

3274. *By Sir Henry Craik.*—Your school is under the inspection of the Department?—Yes.

3275. The inspection is carried on by a number of different gentlemen, each of whom takes a special subject?—Yes.

3276. Then unless you specially asked for the inspection of the physical instruction, possibly those special examiners would not turn their attention to it?—No; it would not be expected of them.

3277. But the Department imposes upon you no curriculum?—No.

3278. It has no power to do so?—In physical training; no.

Boys: tendency to mental over-strain: lack of physical development

3279. You stated, I think, in the past experience of the Department in relation to the school, they have found it confirmed that there was a tendency rather for the boys to overstrain themselves in their mental work?—Yes.

3280. I think the Department have had to remonstrate a little with the number of subjects that they took up in certain cases?—I do not remember that particular instance.

3281. Has the Department not had to limit the number of subjects that they went in for in the Leaving Certificate Examination?—Not more in our school than in Scotland generally.

3282. I am speaking of Scotland generally, too, but also in regard to your school, the Department had one or two cases, had they not, and with your agreement they pronounced the opinion that they took up too many subjects?—No; I cannot recall it.

3283. Was there not some correspondence between the assistant director, Mr Macdonald, and yourself on the point?—No. I have not had any correspondence with him since this question arose.

3284. But they do as a fact take up sometimes as many as four Honours subjects in the Leaving Certificate?—We might propose, on occasions, to offer as many as five; if the boy had already got Honours in one or

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other subject it would be simply taking the subject over again.

3285. Do you not think that five Honours subjects in a single year is an undue pressure for a boy?—It depends very much upon the boy. We had a case of four Honours last year, in which I do not think it was a strain at all upon the boy.

3286. But the Department has placed a limit upon subjects now?—Yes, I am aware of it.

Honours subjects reduced.

3287. Having been impressed with the idea that there was overstrain?—They have reduced it to three Honours.

3288. Then that indicates that apart from any regulations there is a tendency amongst those ambitious boys slightly to overwork themselves?—The way is this; the boy has got to take five subjects in any case, and if he is going in for a University examination, say a year after the Leaving Certificate Examination, he must keep up his five subjects. It is just a question of being examined; he has to take all five in any case for the University, whether he is to be examined in them in the Leaving Certificate or whether he has to drop two and specialize in three.

3289. But, at all events, the recent regulations indicate on the part of the Department an opinion that there has been rather an over-pressure?—Yes, that is the feeling in the University too.

3290. A feeling which is also felt by the University? To get the subjects reduced to four.

3291. Therefore, as I say, apart from all regulations there is a tendency on the part either of the boys or of their parents rather to overstrain the intellectual part of their work at the expense of the physical development?—Yes, I think so.

3292. That is the general effect of your evidence, I take it?—Yes.

3293. Do you think that you could suggest any remedy by which these boys might be made to take a larger part than you say they do in contributing to the general strength of the nation?—I think a cadet corps would help if the Government would make up its mind to impose it upon us with sufficient means to do it,—

Cadet corps; beneficial to intellectual work.

3294. Would be a benefit to the boys?—Would be a benefit to the boys; it is for military men to say whether it would be a benefit to the army.

3295. But it would not be harmful even if it, to a certain extent, tended to restrict their intellectual work?—No; it is quite possible that their intellectual work would benefit by it in the long run.

3296. *By Mr Shaw Stewart.*—May I put one more question rather following out Sir Henry Craik's questions; at what age do the boys come to your school?—We have an elementary department; they begin at about four and a half; infants.

3297. I thought your school was more for boys over fourteen?—Yes; then the secondary part of the school begins in the middle school at about the age of eleven.

3298. I should like to ask this question; would it not be easier for boys over fourteen to take the physical exercises if they had had some training as small children in physical development?—It is very necessary it should be progressive; yes, but they do get it in the elementary schools to some extent, and in our own elementary school on the same lines as in the Board's general elementary schools.

Physical exercises should be progressive from infant upwards.

3299. But I suppose you consider that it is not really systematic?—Oh yes, as far as it goes; they have one period a week the same as the rest of the school.

3300. But one half hour a week is hardly systematic training?—Well, it is an hour with us, but it is one continuous hour.

3301. Would you like to see that extended in the elementary department of physical training; would you like to see the physical exercises amplified in the elementary?—In the general Board Schools?

3302. Yes?—Yes; I think it would probably be an advantage if they could do more that way than they are doing at present.

3303. Would it not make it easier for boys when they get older to divide their attention more between their physical and their mental development?—Yes.

3304. If they had a proper training as small boys or girls?—Yes. Still some of the boys who come to us and who have not had it before, say, boys entering later in the school, have a distinct distaste to begin what their companions are practised in, and as they look clumsy and loutish at it they take a dislike to it.

3305. But if they had had a proper training before, these games and exercises would come much easier to them?—Yes.

The witness withdrew.

Adjourned.

SEVENTH DAY.

Wednesday, 14th May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

Sir THOMAS GLEN COATS, Bart.
Sir HENRY CRAIK, K.C.B.
Mr M. H. SHAW STEWART, M.P.
Mr J. C. ALSTON.
Mr J. B. FERGUSSON.
Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr JOHN MACKENZIE, examined.

Mr J. Mackenzie.
14 May '02.

3306. *By the Chairman.*—You are headmaster of the Holburn Street Public School, Aberdeen?—I am.

3307. Which is under the Aberdeen School Board?—It is.

3308. And you are Secretary to the Aberdeen Head Teachers' Association?—I am.

3309. You have been twenty-six years in the service of the Board?—Yes.

3310. **And a headmaster for twenty-two of those years?**—I have.

3311. Will you kindly read out your notes so that every member of the Committee may hear it?—In 1889 a syllabus of musical drill was adopted for the guidance of the Board Schools in the matter of physical education. Experience has proved the wisdom of introducing musical accompaniments, as without these drill becomes monotonous to children and they soon get tired. Music is also an aid to regularity of movement, and it is of use in punctuating exercises. The graduated course shown in the syllabus is now practised in most of the schools under the Board. On an average each class in Junior and Senior Divisions receives thirty minutes special instruction per week in the school gymnasium. In addition, classes are arranged daily in the playgrounds and marched into school. In schools with central halls pupils are marched in and out to musical accompaniments. The gymnasia are furnished with dumb-bells, bar-bells, Indian clubs, and where advanced gymnastics are practised, with parallel bars and vaulting-horse. Want of sufficient floor space and want of time restrict the full development of this part of education. The classes in an ordinary public school usually number sixty to sixty-five pupils, and in practising Indian clubs not more than forty or so can be on the floor of any of the school gymnasia at one time. Instructors.—When first introduced the subject was taught by specially trained visiting instructors from the Aberdeen Physical Training College. Now it is largely undertaken by the ordinary school staff. Advanced gymnastics, however, are still taught by visiting instructors. They are on the staff of the Physical Training College; they have been specially trained both in the College and at other institutions, and one, at least, was an instructor at one time at Aldershot, I think, but he has devoted his attention to this work and has been for a number of years on the staff of the Physical Training College almost since its institution. Experience here also has proved that in the elementary school the ordinary class teacher, when trained to teach this subject, is the most suitable instructor up to a certain point; being already familiar with the handling of large classes. Expert supervision and assistance would, however, be of advantage in the higher classes, and here military drill in a modified form might be introduced. In the case of Merit Certificate classes specially trained instructors should be employed in order to give point and finish to the exercises practised by those about to leave school.

The ordinary drill-sergeant or army instructor is not, as a rule, suited for the work as taught in elementary schools, more especially in the lower classes. He has been trained to drill the adult already strong and, to a large extent, disciplined, and it is thought he is somewhat out of sympathy with the young at this stage of the elementary school.

Then the effects. The exercises now practised in the schools in Aberdeen have been found admirably suited to the age and class of pupils attending the elementary schools. They add a charm and attraction to school life which purely military drill does not, and the effects are seen in the bearing of the pupils, in the development of alertness and ready obedience to command. They also prove a corrective to slouching gait and habit, rounded shoulders and stooping. Altogether they have an important reflex influence on the powers of application and on character, and the whole tone and discipline of a school is affected thereby. Physical drill and exercise in connection with evening continuation schools.—Here advanced gymnastics and military drill could, it is believed, be rendered attractive and useful, and be a means of keeping up a continuous course of training which should count for something in the case of those becoming Volunteers or joining the regular army. One evening a week might be set apart in connection with evening classes for such training either during the course of evening classes throughout the winter and spring, or it might be during the summer months.

What is actually going on in continuation schools. There has been in a few of the schools an attempt at introducing physical exercises. A good many years ago before the introduction of the recent Evening School Code there was an evening set apart for recreation, as it was called, in which physical exercises formed a large part of the instruction, and when it was possible to get an evening set apart for the purpose, the classes were very popular, the pupils turned out well on the evenings, and they had practice in parallel bars and vaulting-horse and ladder, and so on. I think that was stopped after a while when the Evening Continuation Code was altered, and since then, as far as I know, there has only been one case in which military drill in a modified form has been tried in one of the schools, that is in the evening school connected with the one in which I am employed. The pupils had dummy rifles or something of that sort with which they practised in school. But it was found that the accommodation was rather limited, and the following winter the class went to the Physical Training College on the evening set apart for that work so as to have more floor space for practice, and they attended well and it seemed to be a popular exercise. That is, as far as I know, all that has been done in the past. Now as to suggestions. More suitable accommodation needed, more gymnasia, possibly free for evening classes, more apparatus, competent instructors, grants in aid, special provision for the training of teachers, and as inducements, certificates of proficiency that would be recognised at headquarters. If possible, the whole system should be organised and correlated so as to culminate in a fully-trained manhood.

Grants for special subject.

3312. *By Sir Henry Craik.*—Let me ask you what do you mean by a grant in aid?—Well, as far as I know, the Board found that in employing visiting instructors the expense came to be pretty heavy, and when the teachers were found qualified to do it in the ordinary elementary school they gradually enlisted them for the purpose of carrying on this work. If grants or payments were made so as to enable the Board to supply a fully-trained staff of visiting teachers, the work would be better done, because, I think, assistance is needed to the ordinary staff in order to keep the subject to a high mark of proficiency.

3313. But there are other subjects for which you bring in expert teachers, are there not?—Well, in cookery there are visiting teachers, and elocution.

3314. Yet there is no special grant for elocution?—No.

3315. Do you wish to revert to the system by which grants should be made for special subjects?—No.

3316. Then why would you make physical instruction an exception?—Well, I do not know, sir, unless it is with the view of meeting or of raising the subject into a more prominent place than it has in the curriculum of the school.

3317. But that is not the method the Department has taken to raise other subjects?—No.

Training of teachers: no classes under Art. 91 (d)

3318. Then with regard to the training of teachers, has there been any advantage taken of the opportunities in the Code for training the teachers in Aberdeen?—Not to my knowledge.

3319. You are aware that such classes are permitted under Article 91 (d)?—Yes.

3320. But those opportunities, although you think them desirable, have not been availed of by the School Board of Aberdeen?—No; not for this subject.

3321. Nor have they applied for certificates from the Department?—No; not for this. The School Board has always understood that the subject was well taught, as there had been no fault found with it, and I suppose they had no desire to press it further.

3322. Have you ever had any objection raised by parents to the physical instruction?—In very few instances; scarcely ever.

Continuation Classes.

3323. You have conducted, yourself, Continuation Classes?—I have been the head of an evening school for a number of years, but did not teach this subject.

3324. Was it a popular subject with the pupils at these Continuation Classes?—Oh, yes.

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3325. Of what age would these lads be?—Well, up till lately, they would be from thirteen to fourteen on.

3326. And now, with the increased school age, they will probably be above fourteen?—From fourteen, yes.

3327. You found that their being kept for part of the time at physical instruction was not resented?—No.

Physical drill: want of floor space.

3328. *By Sir Thomas Coats.*—You talk of want of floor space for carrying out physical drill; I did not quite understand whether you referred to the gymnasium or to the classrooms?—Well, to both. If you wish to utilize your gymnastics in the classrooms we find that the floor space is very limited, and in the gymnasium for Indian clubs, bar-bells, and so on, the space is also inadequate.

3329. What is to prevent the available floor space for this purpose being improved in the classrooms?—Expense.

3330. Have you graduated platforms and fixed desks in the schools?—They are fixed.

3331. Would it interfere with the teaching if the floor was level; would it be less suitable for teaching purposes?—Yes; it is most suitable in the present form for the teaching of the ordinary subjects.

3332. Would it be a great expense to remove that staging and so arrange the desks that they could—some of them could—be put aside to give more floor space for this work once or twice a week?—It would cause a good deal of confusion probably during the course of the ordinary school day's work.

3333. That is, if you took it every day in same class-room?—Yes.

3334. But suppose you were to take it three days a week in the same class-room, would that really be an objection—an insuperable difficulty?—I think so.

3335. Even though you were to have the floors level?—Yes.

Young children: exercises without boots impracticable at present.

3336. *By Mr Shaw Stewart.*—You have had a great deal of experience for a great number of years; I want to ask you about the physical training in the younger classes. Skilled witnesses have told us that it is very important that small children should be exercised on tiptoe, and for that purpose that boots should be removed. Do you look on that as practicable?—No, I do not think it would be. The time is the great point there. The drill is taken at all hours of the day, at least it goes on at all hours of the day, and the changing of boots and so on would always be taking up more time.

3337. But if it were found to be a matter of great importance that children should be exercised without boots, could not that particular physical exercise be fixed for a particular period of the day which would be least inconvenient for the purpose?—Well, there is such a number of classes that it is hardly possible to get all the subjects put in during the ordinary school day.

3338. You see we have been told that it is very important for children who have an inclination to flat feet that they should be early exercised, perhaps only for a few minutes at a time, without boots?—I scarcely think that it would be possible to do it, in the ordinary course of the school day's work, with large classes.

3339. Well, I would put it to you in this way. Supposing it were found advisable to have a considerable increase of school time devoted to physical exercises, say at least twenty minutes a day for the small children, do you not think that boots could be dispensed with in that case, supposing that you were taking out some subject in order to extend the time to be devoted to physical exercises?—Well, if that were done the matter might be managed.

3340. You do not think it absolutely impossible to contrive?—Not absolutely, but there would be difficulty.

3841. There would have to be a change in the time-table and system of teaching?—Yes, oh yes.

Boots: canvas shoes.

3342. *By Mr Fergusson.*—Continuing that subject Mr Shaw Stewart has been asking you about, yours is a town school?—Yes.

3343. And you are not much troubled with children coming wet to school; they have not far to come; it is not like a country school?—No.

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3344. How would it meet the case of the boots if whenever the children came in in the morning they were put into canvas shoes, and remained in canvas shoes all day?—That would be all right.

3345. That would answer all purposes?—That would answer all purposes.

3346. Might I ask you have you great knowledge yourself of physical training; can you teach all your classes all the physical exercises?—Well, I hold no certificate, but I have practised all the physical exercises.

3347. You consider you have a good knowledge?—Yes, sir.

3348. You could put your classes through their different exercises?—Yes.

Playgrou

3349. If there is a want of space inside, why not take the children outside to put them through their exercises?—Well, sometimes the playgrounds are not suitable.

3350. Well, but in your particular case, in the schools in Aberdeen that you know, are they not suitable?—Not in some parts.

3351. I suppose they could be made suitable easily?—I see no reason why they should not.

3352. A playground which is not suitable for putting a squad through physical training cannot be much of a playground?—In some cases the playground is very limited in Aberdeen, but in a good many schools there is ample space for that, and it is done in outdoor drill in a good many of the schools now; in ten of the schools I think there is outdoor drill now.

3353. So that that difficulty of want of space in one way or another might be got over if you were very anxious to get over it?—Well, in a good many of the schools the playground space is limited still.

3354. Surely it is as large as a large room?—Yes; but we find the gymnasium sometimes small enough for an ordinary class to drill in.

3355. Yes; but I can hardly imagine a playground that is smaller than a gymnasium?—No.

Teache ordinar for elen classes experts higher.

3356. You think the expert supervision is required in the higher classes, but the teachers can manage the elementary?—Yes, sir.

3357. When you say expert supervision you mean an expert who comes round now and again; you do not mean an expert should take the whole of the instruction?—Not the whole of it, but I think his assistance would be necessary on frequent occasions.

3358. Once a week?—Once a week, yes, at least.

3359. You would be content to put the whole of your classes through their drill and physical exercises with the assistance once a week of an expert who supervised?—Yes.

Drill a gymna instru a disti

3360. You spoke of drill instructors, of whom you expressed rather a poor opinion; do you draw a distinction between the drill instructor and the gymnastic instructor?—Yes.

3361. The drill instructor is a retired non-commissioned officer—an army sergeant?—They used to be, but the instructor just now has the training of this special kind in addition to his military.

3362. But then he is a gymnastic instructor, is he not; he is not a drill instructor only?—There is one of the staff that visits some of the schools who is both a drill instructor and a gymnastic instructor.

3363. A gymnastic instructor must have a drill certificate, but a drill instructor need not have a gymnastic instructor's certificate?—That is the point.

Comp inadvi

3364. Would you be prepared to say that physical training after the age of fourteen—from fourteen to eighteen—should be made compulsory for all boys?—I should not say compulsory.

3365. You would not say so?—No.

3366. And if anyone else said it should, would you differ from him?—Yes.

3367. And why?—Because I think it can be carried on without being made compulsory, if a course were arranged in such a way that the drill or whatever

exercises they put in between fourteen and seventeen would count for so much when they become Volunteers or when they join the regular army.

3368. Yes, but everybody is not going to be a Volunteer. What proportion of the lads do you think you would get if it was voluntary? Whatever system you invented, what proportion would you hope to get of the lads after they left school?—I think the majority would be quite willing to take part in physical exercise and drill—the majority of those attending the evening schools would do so without compulsion.

3369. Suppose you did not find it come up to your expectation and you got a very small proportion, would you then be prepared to consider, looking to the advantage of physical training, making it compulsory?—No, I would not.

3370. You would not under any circumstances?—No.

3371. You do not think people would like that?—I do not think so; I think it would operate against the getting of them to join these classes.

3372. If they were compulsory that would not matter, you know?

3373. *By Professor Ogston.*—You have to teach both boys and girls in your school?—Both.

3374. How many boys?—Including all divisions of the school?

3375. Yes; an approximation will do?—490 boys.

3376. And girls?—about 480.

3377. Do you find that the same system of physical training is suitable to both?—Yes, up till we come to the advanced gymnastics—what we call advanced gymnastics; the same course is given to both, and found quite suitable.

3378. And you do not find that the girls are apt to be neglected in the matter in comparison with the boys?—I do not think so.

3379. Neither when they are younger nor when they are older?—No.

3380. Do you teach dancing?—Yes.

3381. And do you recommend it for any special purpose; say for girls?—I think it makes them lighter in movement, and smarter in movement, and altogether gives them a taste for this sort of exercise.

3382. It forms a part of their physical training?—Yes.

3383. And is taken by all?—Not by all.

3384. How do you work that?—A charge is made for this particular subject—a small charge—for those wishing it; it is quite voluntary; we do not make it compulsory all over the school.

3385. *By Sir Henry Craik.*—Is yours a free school? Yes, sir.

3386. What is the age of those children who pay those fees?—Well, all ages; I should say from ten.

3387. But I think the rule of the Code lays down that in order to have the fee-grant no fees whatever must be charged between three and fifteen?—But the subject is taken out of school hours.

3388. You mean you withdraw a certain part of the instruction from the cognisance of the Department altogether, and do not ask it to be counted as part of the instruction?—No.

3389. And then you feel yourself justified in a free school in charging a fee for it?—For this particular subject.

3390. That is sailing very near the wind.

3391. *By the Chairman.*—Advanced gymnastics?—Advanced gymnastics are charged for too.

3392. *By Sir Henry Craik.*—I am not sure that the Department would pay the fee-grant if they knew it on those conditions?—A small charge is made for advanced gymnastics in the same way.

3393. *By the Chairman.*—When you say extra time, what time do you take for this extra thing that payment is required for; when is it done?—Generally before the regular school time-table in the morning or in the afternoon.

3394. *By Sir Henry Craik.*—Is it on the time-table?—No, it is not on the time-table.

3395. *By the Chairman.*—Has this been going for long, these extra things?—Oh yes.

3396. Then in your school, at what time actually, how early in the day, would this be done; at what time in the day would this extra instruction be done in your particular school—9 o'clock I mean, or when?—Four o'clock to 5; some time between 4 and 5 once a week.

3397. And can you give any idea what numbers, say to-day, are doing that?—Probably——

3398. I mean it is purely a voluntary thing, as you say; I merely wanted to know how the voluntary feeling goes—what sort of percentage?—From sixteen to twenty-eight of a class.

3399. Of a class of fifty?—No; of the whole school.

3400. Sixteen to twenty-eight out of the whole school?—Out of the whole school.

3401. Oh, not more than that?—No; in some schools the percentage is much larger, according to the class of children attending a particular school.

3402. But this is not confined to your school, is it; it is done in many schools—most schools?—In a good many.

3403. In a good many in Aberdeen?—Yes.

3404. Have you any knowledge of any schools not in Aberdeen; I suppose not?—Of the country schools of Banffshire I really know something.

3405. You do?—Yes.

3406. It is a long while ago since you were there?—Yes.

3407. I mean things have altered so much since?—They have altered a good deal.

Medical inspection

3408. What is your opinion as to the advantages of any medical inspection of children going through physical exercises in schools, do you consider it is necessary, or do you consider that you and your assistants are sufficiently qualified to judge whether the children are capable of going through the various exercises or not?—Well, generally I should say.

3409. There is no medical supervision of children as school children?—Not unless the question is raised by a parent or anything of that kind. There is no regular medical inspection.

3410. But if the question be raised by a parent, do you mean that a medical officer appears in the school; no; he sees the children at their own homes, does he not?—Yes, that is so.

Games.

3411. Do you encourage in any way, yourself, as part of your duties as schoolmaster to your pupils, the playing of any games or not?—No.

3412. Have you ever known teachers actually teaching games as well as teaching other things?—Oh yes.

3413. You see no objection to it, do you, or do you think a teacher has enough to do without troubling his head about that sort of thing?—I think the teacher generally finds he has got enough to do, unless he is an enthusiast in any particular game.

3414. And, therefore, on behalf of the hard-worked teacher you would be rather against teachers' supervision of ordinary games?—Yes.

3415. Have you ever considered the subject of a child being taught a game instead of learning it for himself?—Oh yes.

3416. I mean I do not quite know how far you are interested in physical training of all sorts, including games, or whether you are more interested in what we call books?—I think that in cricket and football I have known teachers; I have taken part myself in the teaching of cricket to boys, but it is not generally done.

Playgrounds; public parks.

3417. No, it is not generally done; are there any opportunities in Aberdeen for school children playing games properly?—Just in the ordinary school playground.

3418. There are no fields?—Well, we have got public parks.

3419. But are they allowed to play in the public parks?—Yes; in some of them they can get permission.

3420. But I mean do they play as individual children of the city or do they play as a school?—In clubs.

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3421. Have you any clubs in your school—cricket clubs or football clubs—solely composed of those at the school?—Not at present; we had a football club.

3422. A school football club?—A school football club, but not now.

3423. Is it likely to come up again?—I do not think so; the difficulty was getting ground to play on.

Games.

3424. *By Mr Shaw Stewart.*—In continuation of the Chairman's question to you about games, would you favour any outside assistance in organising boys' games from old pupils, say, Young Men's Christian Associations or similar outside aid; would you welcome it if it were obtainable?—I think it would be very desirable if the schools could be got together for that purpose.

3425. It has been suggested to us by a former witness, or more than one witness I think, that schools might group together and secure the use of public parks on certain days in the week in large towns or cities?—For games.

3426. For games?—Yes.

3427. Of course the teachers could hardly be expected to take the whole burden of organising these games, and it has been suggested to us that outside voluntary aid might come to the assistance of the teachers. I want to ask you whether you think that practicable, and if practicable whether you would welcome it, whether you would think favourably of it?—I should think favourably, but I am not altogether sure as to the practicability of the idea.

3428. I want your opinion as to that, as to the practicability of it?—There would be a difficulty in getting boys from different schools brought together unless they were in one particular district of a city.

3429. The schools would have to be grouped according to the convenience of bringing them together at one part of the city, but if that difficulty were surmounted do you see any difficulty as to getting the voluntary assistance?—I think there would be difficulty in getting voluntary assistance.

3430. It has never been tried yet?—I do not think so.

3431. *By Sir Henry Craik.*—About this question of the fees, I understand that the habit is common to other schools besides your own of charging a fee for this advanced physical instruction and dancing?—Yes, sir.

3432. In your own school from 16 to 20 scholars out of 970, take this advanced physical instruction?—Join the dancing class and advanced gymnastics.

3433. The pupils that join that class would be of rather a better social class than the others?—That is so; yes.

3434. Therefore one can hardly say from that how many would take it up if it were a free class?—Oh, not at all; I think a great many more would take it up.

3435. But for the sake of the small fee the School Board think it expedient to limit the number to those who can pay?—I think that is so.

3436. With regard to the employment of a part of Saturday for such instruction, do you think that that would be an undue burden upon the pupils?—Oh, I should think so.

3437. They would resent giving even an hour or two hours on a Saturday afternoon to meet together at a general park and go through some form of drill?—I think the majority would.

3438. And you think it would be an undue burden upon the teaching staff too?—Oh yes.

3439. It would interfere with that free day?—Yes.

3440. *By Mr Fergusson.*—If somebody was wanted to help in the games and look after the games, these gymnastic instructors, if you had them, would be very useful for that purpose?—Yes, certainly.

3441. They are generally men who know something about all sorts of games?—Yes.

The witness withdrew.

Rev. D. B. Cameron.

The Rev. D. B. Cameron, examined.

3442. *By the Chairman.*—You are the Chairman of the Dundee School Board?—Yes, my lord, I am.

3443. And for how long, pray, have you been so?—For a little over two years.

3444. That is to say, during the present terms?—Yes. I have been a member of the School Board for about twenty-five years.

3445. You have your notes before you; will you kindly go through them?—The following is a motion, which, on my recommendation, was adopted by the Dundee School Board:—

Dundee School Board: resolution.

'That, in the opinion of this Board, it is desirable 'that provision be made for further instruction in physical exercise combined with military drill, and that a 'Committee be appointed to draw up a scheme on the 'basis of Lord Balfour's recommendation, contained in 'a letter from the Education Department of date February 1st, 1900.'

Physical training in Dundee: extent.

I shall be prepared to submit to the Royal Commission evidence on the nature and extent of the training at present given in Dundee, the methods on which it proceeds, and the qualifications of the teachers engaged in it. I shall state that calisthenics, bar-bell, dumb-bell and Indian club exercises are successfully carried on in all the School Board schools, while military drill has been successfully taught in several of them, conspicuously in the Morgan Academy, in connection with which there is a cadet corps. But in my opinion, generally speaking, the training is not sufficiently thorough and systematic; too little time is devoted to it, and in many cases the teachers possess no special qualifications for carrying it on. While I do not approve of military men taking the place of the ordinary teachers, who are best acquainted with the physical and mental capacities of the children, I am of opinion that classes might with great advantage be established under military men for the instruction of such teachers as required it, and that the Education Department might be asked to extend the grant now offered in the Code for nature knowledge and free-arm drawing to the instruction of teachers in military drill.

Teachers.

Cadet corps.

I am further of opinion that the schools might with advantage be divided into groups, and a cadet corps formed in connection with each group, none but pupils above the fifth class being permitted to join. Boys should be encouraged to continue in their respective corps after leaving school, and until they have reached the age of seventeen, when they might and probably would become Volunteers. For the above purpose it might be necessary (considering the circumstances of many of the pupils) that the Government should give additional financial aid. I am of opinion that physical training combined with military drill is far more beneficial and useful than many of the severer forms of gymnastic exercises engaged in by young men. I think it is good for the pupils bodily, mentally, and morally (and I will be glad to state reasons for my opinion), not only fitting them for their future occupations, but adding an important element in maintaining the strength and security of the empire. Such exercises tend to strengthen and develop the muscles without overstraining them, as some of the severer forms of gymnastic training do. They promote habits of ease and grace in form and movement, saving the pupils from that awkwardness and ungainliness so common, especially amongst the young and old, of the lower working classes of Dundee. By developing the physical powers of the pupils they improve the health, and render them more fit for the employments in which they are to be engaged in after life, and, besides, they are a pleasant recreation from severer studies. That, I think, is a distinct advantage, and a strong reason why they should be encouraged. Besides, they induce habits of order, forethought, precision, punctuality, self-restraint, rendering the pupils more resourceful in times of emergency, abler to face difficulties

and to adapt themselves to changed and changing circumstances. These habits, moreover, often extend their influence into the moral side of action; self-respect gives rise to mutual respect, and mutual respect is fostered by pupils being compelled to act in combination. For example, a habit of self-restraint in those who are young often prevents in later life those outbursts of bad temper which sometimes disgrace men and women both in public and in private life. Then I think that physical training, combined with the simple elements of military drill, may be argued in the interests of the country. A boy exercised in military drill must to some extent realise his citizenship, and realising his citizenship, he will realise the duties which it involves. One of these is the duty of serving as a soldier for the safety of his native land. Means should, I think, be devised for providing such a training as would enable young men easily to act in this capacity when required.

3446. May I ask you, as regards your own appreciation of physical training, whether that has always been so, or whether it has increased of late years?—It has been always so, but not to the same extent; it has increased of late years.

3447. You, like a good many other people, have been inclining more to seeing the advantage of it?—Yes.

3448. Some years ago you would rather have thought that it was rather outside the province of education as education?—Fifteen years ago I would.

3449. But I meant a change has rather been coming over your opinion?—Yes; quite.

3450. And I suppose, also, that of other people that you know?—That is so.

3451. The members of your Board to some extent?—That is so, because if I may be permitted to say so, about fifteen years ago a motion was made that something should be done in the way of permitting physical drill, and that motion was defeated.

3452. On the score of its interfering with the mental curriculum of the school?—Yes, and the education generally of the school.

3453. That, therefore, as I said before it was not then considered part of education, but you think, to a large extent, it is now?—Yes.

3454. I mean, of course, it is a part of education; it is laid down to be a part, but what I mean is, is it considered by the body politic?—That is my opinion, my lord.

3455. Do you lay down any rules for the schools under your Board as to what time and in what manner this training is to be done in the elementary schools?—The headmaster draws up a time-table.

3456. And that time-table is sent to the inspector?—Is sent to the inspector.

3457. Do you see that time-table, as matter of fact, of the different schools?—Yes.

3458. All laid before your Board and considered?—It is not formally laid before the Board, but the School Board is divided into committees, having charge of groups of schools, and each committee knows the time-table that is used in each group of schools.

3459. You leave it, then, to the schoolmasters to lay down the time and the mode in which this instruction is to be given?—That is so.

3460. I assume I am right in saying that there is no sort of medical inspection of pupils in any of your schools?—There is none.

3461. Even with regard to the considerable advance in physical exercises that has taken place of late years?—There is none.

3462. Have you ever considered it, either yourself or has your Board ever considered it?—Whether there should be a medical inspection?

3463. Whether there should be any medical inspection of children in schools, as school children, with reference to the physical exercises that they are now called upon to go through?—That has not yet been considered by the Board.

3464. And you have never considered it yourself?—Yes, I have considered it.

3465. What opinion have you come to?—I think there ought to be. *Rev. D. B. Cameron.* 14 May '02.

3466. Do you see any practical difficulty? Do you see any great expense in it?—It would certainly add to the expense, but I think the money would be profitably spent.

3467. But you do not think that it would fall under ordinary questions of public health authority, under the power of public health authorities?—I do not think so.

3468. You do not think public health authorities are responsible for the health of the children in the school?—I think they are, but I do not think a public body of that kind would care to undertake it.

3469. But you do not think it is their obvious duty, as part of the public health generally?—I think it is the obvious duty of some body or other to do it.

3470. You understand what I mean—it is not from the mental exercises, it is from the additional physical exercises?—Yes.

3471. And therefore, in the same way as there is no medical inspection, there are no statistics taken in any way as to the development of the children?—I agree that there should be.

3472. There are none at present?—There are none at present.

3473. Nothing whatever?—No.

3474. And you do not know of any in Dundee?—I know of none.

3475. Is there any public gymnasium in Dundee?—There is. Public gymnasium.

3476. Are there no statistics or anything there? I mean, is it the habit to enter there for a course of instruction?—Yes.

3477. Do you happen to know, on entering for a course, is there not a system of weighing and measuring and so forth, and again at the conclusion of such a course?—No, I do not think there is. The gymnasium is not in connection with any public body. In many towns, I understand, the Town Council have it under their supervision. In Dundee it is not; it is a private corporation.

3478. I should like, further, to ask you whether you have to bear in Dundee with a great deal of opposition or with a considerable amount of opposition to this idea of physical exercise?—There is opposition to the idea of physical exercise combined with military drill. Military drill: some objection in Dundee.

3479. Of course we all read the newspapers?—Quite so. The opposition comes from a very small section of the community. It is bitter, but I do not think it is influential or widespread.

3480. And you have no objection to that being put down as your deliberate opinion?—I have none.

3481. That the opposition is confined to a very small section of, shall I say, the population of Dundee?—Yes, you may, my lord.

3482. I want to know rather what form such opposition seemingly takes?—Well, we have had——

3483. I mean, there are two sides to a question. Can you give me the opposite side, as presented to you by this small body in Dundee? What seems to be the objection?—Oh, encouraging what is called—miscalled—the military spirit. That is the objection; that is the form it takes.

3484. What do they mean by the military spirit?—Fighting, I should say, for the love of fighting. I mean by it a high sense of honour, of loyalty to one's king and country—patriotism, in short.

3485. But I mean do they regard the practice of physical training by children and also those a little older as detrimental to their moral habits?—No, I do not think so.

3486. You do not think that is the opposition?—No, I do not think that is the opposition; it is the encouragement of what is miscalled the military spirit. That is the objection; that is the form which it takes.

3487. But do they say that it makes boys more ready to fight one another in the streets?—No, I never heard that.

3488. There must be something at the bottom of

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their opposition?—Yes, the fostering of the military spirit and love of fighting for fighting's sake.

3489. But not in the streets?—Not in the streets; a love of going to war, for example.

3490. Does that include the love of going to war too?—It may; but I do not think that the result of physical exercise is to make boys more ready to fight one another in the streets.

Boys' and girls' training.

3491. *By Sir Thomas Coats.*—You talked principally, I think, with regard to this physical development in regard to the boys; you have not said anything about the girls: do the girls have the same training as the boys?—Well, not exactly; they have training in calisthenics, and bar-bell, and Indian club exercises—those in the senior division. In the infant and junior divisions they are confined to free movements and exercises with tambourines and flags, and so on. They are not asked to undergo any severe physical exercise. As a rule the exercise is adapted to the capacities of the different sexes.

3492. Up to what standard would the pupils take the same exercises?—The exercises in the junior division of a class are confined to free movements and musical drill.

3493. The boys and girls take the same exercises?—In those classes; yes, they do.

3494. And at what age or what standard do you differentiate between the training of the boys and the girls?—Well, I should say from ten years of age.

3495. You begin to alter it then?—In some cases; but, as I say in my statement, physical training is not sufficiently systematic in our schools, and that is why I am anxious to have a committee appointed to make it more systematic. It is capable of great improvement. Of course they can differentiate in all the schools what kind of exercises should be engaged in by different sets of pupils. They take into consideration the age and the sex, but I do not think it is sufficiently done.

Different systems.

3496. Are the masters in the different schools allowed to choose their own system of drill, or does the Board lay down any special system to be followed generally throughout the schools?—Hitherto the Board has not laid down any system, but I think that is a great mistake.

3497. They have not even recommended a special system?—They have not; it is left to the headmasters, therefore the system is different in different schools to some extent, but I do not think any harm accrues to the pupils from the exercises being too severe.

Teachers.

3498. Have the teachers had any systematic training for imparting instruction?—Well, I should think about 40 per cent. of them have. They have certificates from the training colleges. I do not attach much importance to them: one holds a certificate from Cruden's gymnasium in Aberdeen, and two or three have certificates from the public gymnasium in Dundee. Then, again, fifteen have been or are at present members of the Volunteer force; they are Volunteers.

3499. And are the lady teachers instructed as well as the men? Of course they do not belong to the Volunteer corps?—No, of course not; but as a rule they take the certificate that is given by the Free Church Training Colleges. They have been in the habit of issuing certificates for physical drill, but I do not attach very much value to those certificates.

Cadet corps.

3500. You talked of it being advisable to have schools grouped, and cadet corps formed from these groups of schools: would you have these cadet corps attached to the Volunteer battalions in Dundee, or what would you recommend about that?—Yes, there is one in connection with the Morgan Academy, which is attached to the 1st Forfarshire.

3501. That is a higher class school, I suppose?—It is.

3502. But in the Board Schools how old would you suppose the boys would be just before leaving the school?—Before leaving the school.

3503. How old would the boys be in these cadet corps?—Before leaving the school?

3504. Is it before leaving school you do this or afterwards?—Oh, before leaving.

3505. The cadet corps?—The cadet corps.

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3506. Yes?—In the ordinary schools, when they are leaving, after they have attained the school age of fourteen, we have no more control.

3507. Not at all after they have left?—Well, in many cases I think it might be advisable, perhaps, shortly before they left, in order that we might not lose our hold over them afterwards.

3508. There would be a certain expense, of course, in conducting this cadet corps?—There would. Yes; that is the difficulty, because most of the children are not in the circumstances to pay for their own uniform; but I think the age of fourteen would be the best age for forming a cadet corps, just before they leave school. I have some information about the Boys' Brigade.

3509. *By Mr Alston.*—Are you a minister of the Church of Scotland?—I am; yes.

3510. Are there other ministers on your Board?—Oh yes; there are seven, including two priests.

3511. Out of how many members?—Fifteen.

3512. Nearly 50 per cent.?—Yes; but I am the only minister of the Church of Scotland.

Resolu... Board.

3513. Then they came to this decision just recently embodied in this resolution?—Yes, on the first Monday of this month.

3514. Was it unanimous?—It was not. In the last division there was a minority of two.

3515. That is 13 to 2; it was carried by 13 to 2?—They were not all present; I think two were absent. There were two votes taken on my motion. The mover of one of the motions wished me to exclude from it the allusion to military drill, and I refused to do so. Another wished the motion to be delayed until the Royal Commission had concluded its meetings.

3516. The ultimate decision, however, carried this emphatic clause — physical exercise combined with military drill?—Yes.

3517. With some dissentients?—I think by recollecting I can give you the exact numbers; nine voted for my motion, and two voted against it, for the clause about military drill.

3518. Then it was practically carried fairly unanimously?—It was; yes.

3519. And, of course, with the full appreciation of what military drill meant as applied in the school itself?—Oh, I think so, from the opposition excited in the minds of the two who opposed it.

3520. Then in trying to carry this, had you in view what is generally believed to be the rough population in Dundee?—Very much.

3521. You thought that it would be a very valuable means in your hands to assist in improving the condition of this rough juvenile population in Dundee?—Yes.

Milit... m.

3522. You were asked by the Chairman if there was any opposition to the instruction in military drill, and your answer was, very little amongst the general public?—Yes, very little.

3523. It is a feeling against militarism, I think, rather than against drill?—It is.

3524. Did you ever find opposition on the part of the parents of the children?—No, I have not.

Boys' ligi...

3525. Have you heard approval of it expressed by the parents?—Yes; and the fact that so many parents encourage their children to join the Boys' Brigade is a proof that the parents are not opposed to it.

3526. Is it the case in Dundee that the parents encourage their children to join the Boys' Brigade?—A great many do; there are 800 in the Boys' Brigade at present in connection with different churches.

3527. That is the strength of the Dundee battalion of the Boys' Brigade?—Yes, divided into twenty companies.

3528. And has it been found to be a very valuable organisation in Dundee?—Yes, I think it has done a great deal of good.

3529. Of course they use military drill in a very advanced form?—Yes.

3530. As a means of attracting the boys?—Yes.

3531. Is not that the case?—Well, of course the boys are only allowed to wear a white belt and use toy guns.

3532. It cannot be the uniform that attracts them?—It cannot be the uniform that attracts them.

3533. Because it consists merely of a cap, a haversack, a belt and a model rifle?—Yes.

3534. Then it must be the military drill that attracts them.

3535. Would you find it to be a sufficient attraction for the boys in your school, say after school age, in the case of continuation classes? Would military drill in the same way be found a sufficient attraction to bring these boys to the continuation classes?—My opinion is that it would not. If they were formed into cadet corps it might have that effect. I do not think you can expect boys to continue in the Boys' Brigade until they are fifteen or sixteen years of age.

3536. Of course you are aware that the Boys' Brigade age is from twelve to seventeen?—Yes; well, I think the time is too long to expect boys to continue in the Boys' Brigade, and they ought to be formed into a cadet corps, but of course the difficulty is the financial difficulty.

3537. In connection with the school the financial difficulty would bulk very largely, I suppose?—Yes, it would.

3538. Then if cadet corps were attached to the Volunteers would you approve of that?—I would.

3539. And when the boy had passed the Boys' Brigade age you would advise him to join the Volunteers?—Yes.

3540. You were asked about uniformity in the system of instruction in physical exercises; you say it varies in Dundee in the different schools?—It does.

3541. Would it not be of advantage to adopt one system, one approved system?—Yes, generally speaking it would.

3542. It would be an advantage to the teachers as well, would it not?—It would.

3543. *By Mr Fergusson.*—About this question of physical exercise combined with military drill, when you use the term physical exercise, do you not include any drill at all in that?—Oh, yes.

3544. There is a certain amount of drill included in a course of physical exercise?—Yes, there is marching, of course.

3545. Then what do you wish to add to it when you add the words 'military drill'?—Oh, well, rather more than the simple marching.

3546. Does not the physical training cover the whole thing. All that you want to teach boys up to fourteen?—Well, I do not know that it does; there might be physical training apart from any form of military drill at all. If you sent a boy to a gymnasium he gets physical training there; I do not suppose he gets any military drill.

3547. It depends upon what you call military drill. Policemen are drilled, and sailors are drilled, most people are drilled; why did you insist in retaining the words 'military drill' when you knew it was stirring up a hornet's nest?—Well, it did not occur to me that it would stir up a hornet's nest. I do not think I am responsible for it; it is those who set up the hornet's nest, who are responsible, I am not.

3548. But you know there is a small but aggressive minority who do not like the word 'military'?—Yes; well, I think they ought to be educated.

3549. And you get all you want when you say physical training, do you not?—Well, I am not quite so sure of that, because, as I say, the training given in a gymnasium is purely physical training.

3550. Yes, in a gymnasium; but by physical training one does not mean only what you get in a gymnasium. There you have what are called applied gymnastics?—Yes.

3551. What are called free gymnastics include a certain amount of movement, marching about in open order and in close order, and so on?—Yes.

3552. However, I will not pursue that matter any further. You said that one of the troubles was that there was too little time devoted to physical training?—Yes.

3553. That objection has been very frequently raised. We are told that there are enough subjects already in the curriculum, and teachers cannot find time for another, and so they propose to limit the physical training; but do you view physical training as of such importance that you would say you must have a reasonable amount of physical training first, and then you may spread your other subjects over the remaining time?—Yes; I should go that length. Physical training of great importance.

3554. You would say that physical training was so important as a foundation for mental teaching?—Yes.

3555. You would rather have a moderate time for physical training, and then fit in the reading, writing, arithmetic, and so on as best you could?—Yes.

3556. Now you speak of the expense, but what is the great expense in teaching physical training? There is an instructor to pay, I suppose?—Yes; of course I disapprove of any outside instructor being brought into any school. Teachers.

3557. You disapprove of that?—Yes.

3558. You wish the ordinary teaching staff to do all the physical training?—I do.

3559. But do you think they are competent to do that just now?—They are not.

3560. They would have to be trained?—Yes; about 40 per cent. are fairly competent.

3561. At anyrate, for a time you would require some outside supervision?—Yes.

3562. But you think when the teachers had received training and got their certificates, that it would be safe to leave them without any supervision?—That part of the education would be inspected, I should imagine, like the other parts of it.

3563. Would you have a special inspector for that or not?—It would be advisable to have an inspector specially qualified.

3564. But you are not satisfied with the training teachers have received; you do not think though they have received a certificate it is of much importance, you said?—Yes, I say so; that is my opinion.

3565. You think there ought to be some better system of making a certificate a more real test of teaching drill and physical exercise?—I think the Education Department might do for physical training what they have done for nature knowledge and free arm drawing. They give special grants for the instruction of teachers in those subjects.

3566. Are there any of the ordinary subjects that are taught now under the present Code that you would care to see done away with if more time was necessary; is there any way of lightening the course?—Well, rather than that physical training should suffer, I should give up manual instruction.

3567. Anything else?—It depends very much on the subjects included in the curriculum of each school. I should require to know that, before saying which subject I should omit.

3568. *By Mr Shaw Stewart.*—I have just one question to ask you on the subject of the opposition to physical training. I will ask you this; if this Commission recommended the extension of physical training on a reasonable basis, and if they made it clear that the object is to enable boys and girls to make the best use of their bodily and mental powers in all walks of life, would that remove the dislike that you have noticed to physical training in certain quarters?—I believe it would to a large extent. Physical training: opposition.

3569. Would it remove all reasonable opposition to it?—Well, it ought.

3570. *Sir Henry Craik.*—The Department draws the distinction in the Code between military drill and physical exercise?—Yes. Physical exercise and military drill: distinction.

3571. Do you think that there is a real basis for this distinction?—Yes, I do think that it is well founded.

3572. You do not think that the military drill has certain advantages which are not included in the physical exercises?—Oh yes, I think it has.

3573. Then there is a distinction?—Well, in that sense there is a distinction.

3574. You think that the military drill adds to

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physical exercises a certain amount of moral training by discipline, by comradeship, by obedience?—I do.

3575. And that that is valuable not merely for its physical effects but also for its moral effects?—I do.

3576. Therefore you think that the Code rightly makes a certain distinction between the two? The circular to which you refer, Lord Balfour's circular, does insist specially upon drill and the effects of that drill?—Yes.

3577. And you find these in your experience are valuable?—Yes.

Physical training: advantages should be extended.

3578. With regard to your schools, I presume you have different degrees of excellence in the physical training or military drill in your different schools?—Undoubtedly.

3579. And you mention one as standing out conspicuously, viz., Morgan's Academy?—Yes, and Blackness School.

3580. That school is under your Board?—Yes.

3581. It is a fee-paying school?—Yes.

3582. And therefore presumably attended by rather the better class in Dundee?—Yes.

3583. And its physical instruction is superior to that in the schools attended by the children of the poorer classes?—Yes.

3584. Is there no special fee for the physical instruction in that school?—None.

3585. Not even for advanced physical instruction?—None.

3586. The fee charged to the pupils covers the whole?—Yes.

3587. Is there a subscription to the cadet corps?—I believe there is, although the parents in most cases are quite willing to defray the cost.

3588. But of course that would apply only to the rather better-class parents?—Quite so.

3589. That is therefore an opportunity not open to the poorer parents in Dundee?—Precisely.

3590. And which you would desire to see open to the poorer parents?—Yes.

3591. With regard to the suggestion that the same advantages should be given for the instruction of teachers in military drill as are given for their instruction in nature knowledge and free-arm drawing, are you aware that the Code does offer the same advantages?—In the evening continuation schools.

No teachers' classes under Art. 91 (d).

3592. No; Classes for Teachers under Article 91 (d)?—I did not know that.

3593. You have no classes for teachers in military drill?—None.

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3594. Are you not aware that they are started in various other places under that Article?—I was not aware.

3595. But you think that the use of such opportunities would meet the suggestion you make?—Yes; I do quite completely.

3596. You have in Dundee a large amount of youthful employment?—Yes; I am sorry to say we have.

3597. You have special difficulties in Dundee with the boys who have just left school for the first two or three years?—With the boys who become half-timers especially.

Continuation Classes: half-timers: compulsion desirable.

3598. You have more half-timers in Dundee, I think, than in any other place in Scotland?—That is so.

3599. Would it be any pressure upon these boys, or would it interfere unduly with their opportunities for employment, if you required them to attend continuation classes?—Half-timers are obliged to attend school, as you are aware, Sir Henry, every alternate day.

3600. But I meant those who were past fourteen?—Oh yes; after they have become full-timers.

3601. After they have a right to become full-timers?—Would it be a hardship to them?

3602. I ask you would it be a hardship to them to require a certain amount of attendance at a continuation class?—They might regard it as a hardship, but I do not think that really it would be.

3603. And if such continuation class covered physical instruction, you think it would be greatly for their benefit?—It would be greatly for their benefit, yes.

3604. And improve the state of the streets in Dundee very largely?—Yes. Unfortunately a great many of those who go to mills as half-timers remain in the mills as low mill-hands. They never make more than about 10s. or 12s. a week.

3605. And some sort of care, discipline, and supervision for a certain number of hours in the week would be of incalculable advantage to that class?—It would.

3606. Such advantage that you think the State would be justified in making it compulsory?—Yes; I think it is of the greatest importance.

3607. And there is no place, I suppose, in Scotland where you can speak with more practical experience of that than in Dundee?—None.

The witness withdrew.

Mr W. B. Irvine.

Mr William B. Irvine, examined.

Mr W. B. Irvine.

3608. *By the Chairman.*—You are the Rector of Morgan Academy in Dundee?—Yes.

3609. And you have been so for twelve years, and this Academy is under the School Board?—Yes.

3610. Had you any experience elsewhere before that period, twelve years ago?—Oh yes; I was twenty-five years teaching before that.

3611. Where?—In Dundee.

3612. Always in Dundee?—Yes; always in Dundee.

3613. All your teaching experience has been in Dundee?—Oh, yes; I was in a proprietary school in Dundee since 1864—a school belonging to Dundee merchants.

3614. You do not know anything about education outside Dundee?—I was in Edinburgh before that, but I was only twenty years of age when I came to Dundee, so that my experience in Edinburgh was somewhat limited.

3615. And a long while ago?—Thirty-eight years ago.

3616. Have you got a copy of your notes?—I have.

3617. Well, would you please go through them, and then any questions can be put to you afterwards?—The first point is the practical working of physical training in the day schools. In the day schools physical training is given throughout the year to all the pupils in the infant, junior, and senior divisions. Lessons are given usually twice a week, and these in general take the form of marching drill and extension exercises, with or without apparatus and music. Most of the teachers show considerable aptitude for the class of work, and in many cases a high standard of proficiency has been reached. The existing opportunities for physical training.—These are as noted above. Additional opportunities are afforded in the Dundee Public Gymnasium and in the gymnasium connected with the public baths. The extent to which use is made of them.—Both of these institutions were well attended for some time after they came into existence. Of late there has been a falling off in the attendance, other forms of exercise coming into favour—cycling and football. I should say perhaps I have no right to speak about an institution that is not under my own charge. I know the state of matters very well in Dundee. It just occurred to me after I wrote that the falling off is not so much in the case of the public baths as in the case of the Dundee Public Gymnasium, which is not nearly so prosperous as its friends would like it to be. In connection with the public gymnasium a course of lectures and classes for teachers were arranged for and carried out. These were well attended and very useful. How far such training prevails in the various schools under the Board.—As noted above, physical training forms a regular part of the week's

Public gymnasium, Dundee.

Physical training: existing opportunities; use made of them.

work in every school under the Board, and has a place in the time-table. What the Board has attempted in this direction.—(1) The Board has granted to all its schools a plentiful supply of the usual apparatus (I except my own school; they expect our children to purchase their own apparatus, but the expense is trifling), such as dumb-bells, bar-bells, Indian clubs, etc.; and (2) equipped a gymnasium in the Morgan Academy. When I came there the first year I asked the Board for the money. They gave it at once, and they gave it without demur. How far successful and beneficial, and how far the reverse.—Physical training has for a good number of years been a feature in the Board Schools in Dundee, and in my own school (the Morgan Academy) since it was opened in 1889. I consider it wholly beneficial, and I believe it is much appreciated by the children and their parents. When I say beneficial I mean physically and morally and intellectually. I can speak of the moral aspect later on if necessary. I think these were the chief points that were noted in the letter that I got, and after that followed suggestions. When pupils have finished the ordinary course of a day school, and have entered an advanced department or an evening continuation school, it is likely that a new departure in physical training should be made to maintain their interest in the subject. When boys and girls have had six or seven years of various forms of physical exercises, the exercises are apt to get a little stale, and I felt I had to give them some new interest when they left the sixth class and entered the advanced department. And this, I believe in the case of boys, may well be done by the introduction of military drill. This form of drill is to a limited extent taught in several schools in Dundee, but I think it might be further extended and developed. Embodiment in a corps, I believe, is what is wanted to put it on a proper footing. It puts it above the routine—outside the routine of work. But in the ordinary Board School the expense stands in the way. To obviate this I would suggest the formation of a school corps, with a simpler uniform than that of a regular cadet corps. The uniform of our cadet corps with the belt costs 25s. The boys are quite willing to stand the cost, but then when you come down a bit in the social scale you cannot get that. Rather such as is used in the Boys' Brigade. Well, they have a cap and a belt, that is all, and that, I suppose, would not cost more than about 4s. or 5s. I thought to be safe I would say 4s. or 5s., because our field service cap for our boys costs, I think, 1s. 6d. Such a corps is more attractive to the older boys, while its effect on their physique, health, and moral tone is only good—altogether good. The boys look upon themselves—well, I was going to say they look upon themselves as officers and gentlemen in a way—I can tell the difference in the demeanour of a boy in the corps from that of another boy who may be fairly good. The question of drill instructors should, I think, be considered. In many schools there are to be found members of the staff fairly well acquainted with military drill. Outside instructors should not be engaged for teaching in the school, but they might be employed in drilling such members of the staff as are willing and ready to assist with the classes. I do not think that drill instructors—experts, you might say—should be engaged for teaching in the school. I have had something to do with military men in the gymnasium. I first of all had a very nice fellow from the 75th, a corporal, and he was the only successful one. I have had four or five since. The boys want to take liberties with them, and the men are not able to keep the boys in their place. I have found that. But I would use these instructors to drill such members of the staff of the schools as are willing and ready to assist with the work.

3618. *By Mr Shaw Stewart.*—With regard to the latter part of your statement, would it not be the best way of teaching physical exercises in schools, if all the school teachers had previously gone through a thorough course of physical training, and received a certificate?—Yes, I believe that. That is what I hint at in my last sentence.

3619. But your last sentence hints at such members of the staff as are willing and ready?—Well, they would all be willing.

3620. They would all be willing?—Yes, there is a way of making people willing.

3621. If you make it worth their while?—Well then, if you make it worth their while—that is it. Of course you must try and get enthusiasm in the matter too. You see, all work in the corps is voluntary work. One of my assistants who was in the Volunteers is the honorary captain, and it is all done in his own time, and in the boys' own time, and with great enthusiasm.

3622. But then I understood that you would favour a system by which all school teachers should in future go through a training, a systematic training, and receive a certificate?—Just so. Just as we do with drawing and other subjects.

3623. And that their work should be supervised from time to time by expert instructors?—I should say expert inspection as well.

3624. And would you be in favour of those expert inspectors reporting direct to the Department?—Quite. If you want to make it thorough you must do that.

Training of future teachers.

3625. Well now, with regard to the training of the teachers. We have been told by a skilled witness that such a training should be two hours a day for six months. Do you think that is a course through which future teachers would be willing to go?—They might be willing, but I do not see how it could be done. I do not think it is practicable, if you consider that these teachers have all come into existence almost since the Education Act of 1872.

3626. I beg your pardon. I am speaking of future teachers. We could hardly expect existing teachers to go through such a course; but I am speaking of young teachers in future?—They have all been born, you may say, since the Education Act came into force, and they have been under some sort of physical training and military drill, very likely all of them already, and I think that might stand for something. They have a fair notion of what to do, I think, that something less than two hours a day would make them efficient.

3627. That is your opinion with regard to existing teachers. But now, speaking of the teachers of the future, would it not be possible for each of those to go through such a course as I have mentioned?—You cannot get the time; two hours a day is too much. They do not get two hours a day for anything else.

3628. But if they could not get a certificate for less?—Well, of course, if they say so; but two hours a week would qualify a man, if he goes on for a session, in drawing, for instance, or in some other thing.

3629. You think two hours a day for six months would be out of the question?—I think so. That is my humble opinion. I do not think it would work.

3630. *By Professor Ogston.*—Have you to deal with girls at all in your Academy?—Yes. I drill some of the girls myself.

3631. What numbers of boys have you?—I have about 340, I think, altogether.

3632. And how many girls?—A little more—about 350.

3633. And what are the ages from?—From under five to over eighteen.

Boys and girls: training differentiated.

3634. Do you give the same training to the boys as you give to the girls?—Not quite.

3635. In what respect do you find it necessary to modify it for the girls?—For instance, we do not give the girls the same amount of marching and military evolutions as we give to the boys.

3636. And what takes the place of that?—Well, take the work of the seventh girls, for instance (about 54 of them); they have light Indian clubs, and go through a series of movements to music with these.

3637. Then as regards swimming. Have you found any difficulties in teaching it to the girls?—We have never had swimming. We are rather far away from the water where we stand, but some of our pupils do go down to the baths; they have special facilities in the way of cheap tickets, but it does not form an item in my scheme.

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Cadet corps: cost.

3638. *By Sir Henry Craik.*—You say the cost of the cadet corps in your school is 25s.?—About that.

3639. What is the lowest age you admit a pupil to the cadet corps?—They must be twelve years of age; that is the War Office regulation.

3640. What grant do you get from the War Office? Nothing.

3641. Nothing?—They gave us 100 carbines—50 beauties—new ones, small bore, and 50 old ones, large bore, for drill purposes; that is all we got from them.

3642. You could not contemplate the introduction of such a scheme into poorer schools than your own unless there was a grant for it?—Well, I think you would require to get a grant. I did not presume to say that; I had it in my mind all the time.

3643. But without a grant you do not see the possibility of its being introduced into the poorer schools?—The churches have their brigade companies.

3644. But I am speaking of a cadet corps?—No, a pure cadet corps cannot come any lower down than our school; we are just low enough.

3645. You think that the cadet corps, however, has a strong educational influence?—Well, it helps the tone of your school very much at any rate.

3646. And do you think that such a cadet corps might take the place of a continuation class, and be aided as a continuation class?—Yes. I am very strongly of that opinion. One of my men, in fact the captain of our cadet corps, is engaged in evening school work, and I spoke to him before coming away. I said: 'What do you do?' He said: 'I offered to 'my boys'—he is the headmaster of the evening school —'I offered to my boys to drill them, and one boy 'responded. That boy, however, had been in our 'cadet corps before, and had now left school.' That is all the response he could get, and he was of opinion, if he had been able to say, 'Now I will form you into a 'corps,' he would have had 30 or 40.

Continuation class and cadet corps.

3647. But do you see anything to prevent the recognition of a cadet corps as a continuation class under drill-sergeants, and being paid as a continuation class?—Oh, I think that is quite good.

3648. And do you think that the educational influence would justify that payment being made as an educational payment rather than as a War Office payment?—Yes. If you want drill thrown open to these older boys, you will get it at once if you make a corps, but I do not think you will get it without it. That is my idea.

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3649. I want to know whether you think that the educational effect of a cadet corps is sufficiently great to justify its recognition as the subject of an educational payment, instead of a War Office payment: do you think so?—Yes; I do.

3650. Can you tell me what the rates of the continuation class payments generally are?—The grants, you mean?

3651. The grants, yes?—I do not know.

3652. But suppose the grant for a continuation class amounted to about £1 a head, that would enable you to run a cadet corps in the poorer schools?—The slump grant; the overhead grant?

3653. Yes?—That is a question for the managers to speak of; I do not know the details.

3654. No; but I say suppose the Continuation Class Code reached £1, would it enable you to run a cadet corps fairly well—£1 a head?—I am doubtful.

3655. It would go a long way towards it?—Oh yes.

Gymnasium

3656. *By Mr. Fergusson.*—You said you had a gymnasium in the Morgan Academy?—Yes.

3657. Is that gymnasium used by the children of the other schools in Dundee?—No.

3658. But might it not be used by them?—Well, we would not like it.

3659. Why not?—Oh, I suppose sheer selfishness. Well, it is not conducive to discipline to have children from another school coming.

3660. But not at the same time. Why should not each school in Dundee have for a day, or for an hour or two the use of your gymnasium?—They might.

3661. Is your gymnasium empty for many hours in the week?—It is in use all day, either for physical drill——

3662. All day?—Oh, we are always using it.

3663. Then there would not be opportunity for anybody else to use it?—It would not suit during the day; they might come on a Saturday or in the evening.

3664. You use it for drill; you use it as a drill-hall as well as a gymnasium?—It is a big place. Half the ground is covered with apparatus, and the other half is free floor for formation and arm exercises.

The witness withdrew.

Mr W. C. Bridgeman.

Mr W. C. Bridgeman, examined.

Mr W Bridge

3665. *By the Chairman.*—You are Chairman of the Physical Education Sub-Committee of the London School Board?—I am. Everything that we do has to go through two other committees before it gets to the Board, so I mean that we have not a free hand exactly on our sub-committee.

3666. Would you kindly go through your notes just to speak to them and on them?—Mr Chesterton can speak much more to the details of the working of our system than I can; I think he is coming before you. The only difference in the system, as described in his book, is that we have left off lately the use of fixed gymnastic apparatus in the ordinary day schools because we found there were several accidents from the use of it in the playgrounds on the asphalte and so on. It was very difficult that it should be supervised, and we thought on the whole it was better to take it away. We had a few things like horizontal bars and things of that sort in the playgrounds that they used to use, and now we have discontinued that, and we do not have gymnastic apparatus of a fixed kind, I mean parallel bars or horizontal bars, for the use of ordinary day school scholars, only in higher grade schools; and we have altered the time rather so as to give a longer lesson instead of a lot of small lessons. We now have three lessons a week of twenty minutes' duration each instead a lot of smaller lessons we used to have before. The reason for that was that so much time was taken up going backwards and forwards up and down the stairs that we found that really we hardly any time for the actual drill. I think that having regard to the amount of other lessons we have to do under the School Board in London—and I suppose it is not my province here to say whether we teach too many subjects or too few—that we could not very well get any more than that, and therefore I think that the opportunities given now under our present system are quite sufficient, and I can certainly see a very marked improvement in the children who have gone through it since the time they have come into the school when you look at them again in two or three years, and I think Mr Chesterton could give you more conclusive evidence as to the very measurements and so on. It goes on now in all the day schools under the Board, and it is practically bound to be given by teachers who are capable of teaching it, because we insist upon their going through a course of training and getting certificates. If they do not get those certificates within a given time we stop their increase of salary except in some special cases where there is some physical debility. Occasionally there may be a teacher who has got some physical infirmity which may prevent him going through the course, but yet he might be able to give the instruction. I do not quite see how we could extend the system very much further in our day-schools now without interfering with the other lessons, and I do not think it would be desirable to give longer lessons than twenty minutes

London School Board's system.

Teacher

at a time, because I think the children lose interest in it, and I think it is rather a fatiguing thing, especially if it is done out of doors where you cannot have music. I am bound to say that where it is possible I would much rather devote any further time at our disposal to organised games. I should not like to see drill done out of school hours, I mean to extend the school hours, say, to 1 o'clock instead of 12 in order to give more drill. I think it would be a great pity to lose the time we get there, which is very often given to organised games. I think that the value of organised games as far as the character of the children goes is perhaps greater than the more rigid drill, because it keeps them more in their place and they get a spirit of *esprit de corps* in their love of their own school when they play constantly. They have a sort of League matches in cricket and football and so on between the schools, and I think the boys who play in the teams either at football or cricket show more improvement than one would expect, because I think of the nature of the game being freer. I think it gives them an opportunity of showing their own character and capabilities more than when they are under the very strict discipline that they would be in drill. What I have said about competitions in drill I put in because at one time under the Board we used to have a sort of competition between different schools for banners and things that were offered, and it led to a good deal of time being taken up out of school, and a good deal of work being done which was really more show work than real physical exercise, and all sorts of fantastic things came in, and the children and teachers were very much overworked in getting up their classes for this competition, and I think it had a very bad effect. Now we select certain schools to take part in the display—I cannot remember whether it is once in every two years or three years—in the Albert Ha l. We had one last year, and the schools are selected by our organising teachers to show there, and there is nothing to be gained by one more than another; they merely each do their best in their own particular form of drill, and it represents much more what they are actually doing every day in the school than it did under the old form of competition. Then, as regards the evening schools, I have not a great experience of them. I am not on the Evening Schools Committee, but I fancy if any more advanced military drill is desirable at all it could be done to much greater advantage there than anywhere else. There are a great many gymnastic classes. I do not know how many scholars come to gymnastic classes, but I should think nearly all of those who come would be available for further military drill, and I think it would do them more good than the gymnastics they get under the evening school teaching, because I think that the majority of the people who go to evening schools do not get full advantage out of the gymnastic teaching. I am rather inclined to think that the teachers concentrate their efforts on a few of the best and most promising pupils, and they do not care so much about those of average abilities. As to the swimming, I do not know whether that is relevant really to your inquiry. That is extremely popular, especially amongst the boys. We find some difficulty with the girls, because so very few of their teachers are able to go into the water and teach them in any way at all. As a rule, we can get a master who will go in with the boys, and who can teach them to a certain extent, but with the girls we have often to appoint some outside teacher. It is not very easy to do, and it is a very expensive business. No doubt the children are very much better for it, and I think they enjoy it very much, and I think it develops them physically, but it has not much of the element of discipline in it. I think if the members of the Commission could see a school actually drilling it would give them more idea than anything I could say.

3667. I should like to ask you one or two questions as to the time that this drill is done in elementary schools?—It is all worked in with the time-table.

3668. What is the custom?—It is different in each school. Of course, it works in with the time-table of the school.

3669. How are your time-tables settled?—They are settled by the head teachers in each department.

3670. Have they got to be approved by anybody after that, or are they entirely on the responsibility of the head teacher?—They have to be approved by our Board inspectors.

Inspectors.

3671. You have an inspector for your Board?—We have got eight inspectors under the School Board that are entirely under our own jurisdiction.

3672. I am asking that because it differs a little in different places?—Yes.

3673. These inspectors are really under your jurisdiction and orders?—Yes.

3674. And they report on the efficiency of the classes they have examined direct to your Board?—Yes.

3675. Do they report elsewhere?—No.

3676. Do you report elsewhere—to the Department?—I believe we do. I should not like to say for certain.

3677. The Department is in the background?—They have general control, but we have also organising instructors of physical education—two men and three women.

3678. I should like to ask you how long have you been chairman of this sub-committee?—I should think, for about four years, but I am not quite certain. I went on the Board about five years ago; yes, I should think between three and four years I have been.

3679. When you say that you notice a great alteration, is that simply your knowledge from what you can see, or have you got any statistics that you go upon?—I have not got any statistics.

3680. But I mean saying that?—In saying that I go by what I can see, but Mr Chesterton will be able to produce you statistics.

3681. Yes, but your statement that you saw this, was simply what you saw; you have not gone into the statistics?—No; I think that they will bear it out.

Medical inspection.

3682. May I ask you whether there is any medical inspection of the children, especially as regarding the children under physical instruction?—The teachers are expected to take note of any children who appear not to be strong enough to go through it, but I could not say if any further medical inspection takes place.

3683. Is it left to the teacher to absolve those children?—I think it is, but Mr Chesterton will be able to tell you better than I can, or Miss Kingston, who I think is coming before you.

Games: teachers.

3684. Do you find any difficulty in getting teachers to take an interest in the teaching of games as well as the teaching of other things, or do you rely on outside teachers?—The division I know, the only division I really know well, is the division of Hackney, and there we have what is called—I cannot remember what its actual name is, but it is an association of teachers, and one or two other people who take an interest in the games, and they organise all these League matches and all the rest of it between these different schools. I think it is called the Hackney Schools Athletic Association or something of that sort.

3685. Do you have reports, as chairman of the Physical Education Sub-Committee, of the games?—The games are not supposed to come under me at all.

3686. Under whom are they?—I do not know.

3687. You mentioned them, that is why I asked you?—I mention this because I feel it rather strongly personally.

3688. They are not under you; are they under any authority?—No; they ought to be.

3689. They are not under any authority?—No; they are left rather to chance, I think.

3690. Then your reference to them was rather upon what you wished should be the case?—Yes.

3691. Rather than what is actually?—Well, it very often is the case, but it is more the result of accident than design of the Board that the thing is well done.

Games: parks and open spaces.

3692. You do not know enough about it to be able to tell the Commission where the children are able to

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play in any organised way?—Well, in different parts of London; in South London there are a lot of open spaces about Wandsworth, and all about there; in our part of London, Hackney, which I represent, there is Hackney Downs where they are allowed to play to a certain extent. There is Finsbury Park and Victoria Park. On Hackney Common they do not play much. There are one or two places where they might be allowed to play where the London County Council will not let them, but it is really quite impossible in certain parts of London for them to have these games at all. For instance, a place like the middle of Hoton, they cannot get to a place and back and play a game in the interval between 12 and 2, and have their dinner.

3693. Can you tell me how many schools are under your sub-committee in the way of physical education?—About 450 or 500; all the schools of the Board.

Reports.

3694. Do you make a point of visiting these schools, or do you simply take the written report of your examiners on them?—Our five instructors are supposed to go over the whole of the ground. The two men go over the boys' department and the three women over the girls' and infants', and of course it is impossible for any person to have knowledge of all the 450. The proper way to do it is for each divisional member to know what is going on in his own school and report.

3695. I did not want to say as much as that, but is it done as a matter of fact?—I do not think that it is very thoroughly done.

3696. Then you rely upon reports?—Our organisers do their work extremely well, and we have great confidence in them, and whenever they think there is anything going wrong they report to us and we inquire into it.

3697. What I wished rather to know was what ultimate report is made; is there a report made to the Board of Education as to the physical?—There is a report made by the organising instructors. It is made to our school management committee, and I suppose that the report of the school management committee, which embodies it, does go to the Education Department, but I do not know.

3698. You do not quite know?—No.

3699. After all, it is a very large affair?—Yes. It can only work properly when each member of the Board will take the responsibility for his own schools which are distributed to him.

Board: members: area.

3700. I forget at this moment, although I have had the pleasure of voting for some of you, how many members have you?—We have got fifty-five, I think.

3701. Fifty-five on the whole School Board?—Yes; but, of course, you cannot divide the number of schools equally amongst them, because in some of the districts which we represent there are many more schools than in others. Now, for instance, in Westminster, which, I think, has five members if not more, there are only about four or five schools, but in Hackney, in my division, where there are five members there are nearly seventy schools, I think; so one member might get one school to look after in one division, whereas he may have thirteen or fourteen or fifteen in another.

3702. Can you tell us at all how far the sphere of the Board extends. I mean not only in London, but into Greater London to a certain extent; could you give us at all the boundaries?—Well, I could with a map; I do not know quite how I could give it you without. It goes down to Woolwich in one end and it goes to——

3703. Ealing or anywhere there in the west?—I think that comes into some suburban Board. The Board of Tottenham on the north is a separate Board; we come up to the border of that and nearly to Stratford on the north-east and to Poplar and down to the Thames and Southwark and then round by Woolwich.

3704. You are not merely under the London County Council directions; I mean you go into various counties, County Council areas, do you not?—I do not think we do, but I should not like to say.

3705. Hornsey for instance?—Hornsey is not; Hornsey has got a School Board. I rather think we absorbed it the other day, but it was separate when I first went on the Board.

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3706. Hornsey is not in the London County Council; that was an instance I was to give you?—I am not quite sure; I would not be certain about that. When I first went on the Board, Hornsey was not under the Board; I am not quite certain whether it is now.

3707. But I suppose you have increased your authority of late years, your influence?—Very little. Since I have been, Penge I think we absorbed. I don't think the area is very much altered.

3708. *By Sir Henry Craik.*—You spoke of the discontinuance of gymnastic apparatus for children in the ordinary day schools?—Yes.

Higher g schools.

3709. You said that gymnastic work was discontinued except in the higher grade schools?—Yes.

3710. What do you mean by the higher grade schools?—Well, we have got now a certain number of schools which we call higher grade schools under the School Board which include both the higher elementary schools under the higher elementary minute, and a certain number of schools which are run as higher grade schools and only get grants as ordinary schools.

3711. Are these schools where there are fees charged?—Oh, no.

3712. But what differentiates the children who are attending them?—Well, they are supposed to draw from the contributory schools round the more efficient children.

3713. And for these children you do provide some gymnastic training?—Yes, there is a school in Tower Hamlets, called Cable Street, where there is a regular gymnasium.

Gymnas fixed apparat children fourteen undesir

3714. Then you think it an advantageous thing although you have been obliged to discontinue it for the ordinary schools?—I do not know what the Board may think; I do not.

3715. You do not think it would be for their advantage?—I do not believe in fixed gymnastic apparatus for children under fourteen myself.

3716. It is for the older scholars?—Evening schools; but the reason why it was discontinued was because the Department said that it ought to be.

Games physica exercise

3717. About the comparison of the games and the physical exercises, you prefer the games rather than the formal physical exercises?—Out of school hours; I should be sorry to see time out of school hours taken with formal drilling rather than with free organised games.

3718. But are there not many children in the London schools that are poorly developed and who would be rather thrust aside in games by the stronger children?—Oh yes, there are, no doubt.

3719. And physical exercise under the supervision of a skilled teacher might develop these weaker children?—Yes.

3720. For instance, in football and cricket only a comparatively small number will show any marked aptitude for these games?—Quite, yes; but the benefit upon these small numbers is very much marked. I think you can notice it very much.

3721. But to arrange the greater number of perhaps weak and not very sufficiently nourished children it would be necessary to have them under some systematic training and under the eye of a trained teacher?—Yes; but I do not think with the insufficiently nourished children it would be any better to take drill than to take the free games. I think it would be worse because it is more of a strain upon them.

Organis games.

3722. Do you try organising your games in the schools?—In some schools; it really depends very much on the teachers. In some schools there are teachers who organise games. We have got various games they do play in the playground. Fives in some places and rounders. There is a book Chesterton has written on playground games which gives a good many suggestions. The teachers have all got that book, I think.

3723. At your exhibition last year there were some specimens of the teaching of games?—At one school,

I think Eltringham Street, gave a display—a sort of leap-frog and all that sort of thing.

3724. Did that impress you well?—No; I did not think very much of it.

3725. You spoke of your teachers having to get certificates; where do they obtain these?—There are some colleges which we recognise as giving a training that is good enough for us to accept them straight off, and when teachers do not come from these colleges they have to sit for an examination in theory, and they also have to go through an examination in practice after a course of, I think, twenty-three lessons from one of our organising teachers. That is done in the evening.

3726. That is a system of certificates conducted by the Board itself?—Yes.

3727. And, of course, applying only to its own teachers?—Well, we occasionally give them to teachers who begin in our service and who have gone out of it. If they begun in the course, we sometimes allow them to continue after they have left our service, but only very exceptionally.

3728. But you have no system of certificates issued by the Board of Education such as by our own Department in Scotland?—No.

3729. You object to the competition in drill between the various schools. How do you select those schools that are shown in the exhibition?—Well, the organising teachers bring up a certain number of schools to our committee as those who have tried hardest and done their best. Last year I succeeded in getting the committee to agree that no two schools should compete two displays running except where it was impossible to get another school in the district good enough.

3730. Your present system is one of selection tempered by rotation?—If possible we want to get as many as we can to go in hard for it, and the old system rather discouraged that because the same schools were selected over and over again. Now, I think, we shall get a great many more who are fit to go in.

3731. Have you in London heard any objections on the part of parents to physical instruction?—No; I have not heard of any. Some parents object to the girls going down to the playgrounds without their hats; that is the only thing. They attribute every disease they catch to that.

3732. But no objection to military drill or anything of that kind?—It has not reached my sub-committee.

3733. *By Professor Ogston.*—Do you subject your candidates for teacherships to any medical examination as to their fitness?—Yes; we have a medical adviser for the School Board, who has to see them all, I believe.

3734. And to certify that they are healthy and well-formed, and so forth?—Well, I do not know; I cannot answer exactly what test he puts them to. We should not reject a teacher necessarily because he was unfit to give a display in physical exercise, for instance.

3735. You have no set formula that the medical examiner has to answer as to health, physical capacity?—I am afraid I cannot answer that; not that I know of.

3736. *By Mr. Fergusson.*—You say that the fixed gymnastic apparatus has been discontinued, that is what is called applied gymnastics?—It is things like parallel bars, horizontal bars, and ladders.

3737. These were out in the playground, and the children used them without any supervision?—Yes, they might.

3738. But still I understood you to say that in your opinion no children under fourteen should receive any training in applied gymnastics—that is, gymnastics with apparatus?—I think they are as well without it, considering the amount of time that we have got.

3739. What sort of physical training do you give; what do you include under the term physical training?—Well, they have marching and all extension motions. I sent in a book which gives illustrations of the things they do; they have dumb-bell exercise, wand exercises; and of course the infants have a modified form.

3740. That all comes under physical training?—Yes.

3741. What do you include under the term military drill?—Do you mean as I have mentioned it here?

3742. What do you recommend; you recommend physical training which includes a certain amount of marching?—You mean in day schools?

3743. Yes?—Yes; I recommend extension motions, marching, and simple formations like fours.

3744. That is what you call a proper scheme of physical training?—For children under fourteen years.

3745. And you give sixty minutes in three lessons of twenty minutes?—Yes.

3746. Sixty minutes a week?—Yes.

3747. Do the teachers make any objection or say they have not time for it?—The head teachers, when we first started it a year or two ago, said they could not work it in with their time-table, but now they have all done it and are rather glad of it.

3748. It was rather an imaginary objection?—I think so.

3749. When you told them they had to do it, they did it?—Yes; the organisers told me they have had no difficulty in carrying it out.

3750. Do you know are the ordinary subjects in your English education the same as in Scotland—reading, writing, arithmetic, history, geography, drawing, singing?—Yes.

3751. And do you have what we call nature knowledge?—That is what we call object lessons, I should think.

3752. Have you anything else?—We have chemistry.

3753. That is an extra; these that I mentioned are the ordinary subjects, are they not?—No; these are the ordinary.

3754. They manage to get their scholars efficient in all these, and put in sixty minutes' physical training besides?—Yes; they come into the time.

3755. Do they?—Yes; they are not outside the time some of these other subjects.

3756. Chemistry, and these things?—Yes.

3757. Have your Board any printed rules as to the education that the teachers are to have in physical training?—They are expected to obtain certificates qualifying them to give instruction; failure to obtain such certificates entails a stoppage of increase of salaries, and so on; I think there are printed rules on that subject?—Mr Chesterton can tell you that, because he has to prepare them for it.

Evening schools.

3758. Then as regards the evening schools, you recommend some change there?—Well, I recommend that if there is to be any extension of the military side of the drill it would be better done there than anywhere else. I have a very poor opinion of our evening schools as worked in London at present, although I cannot speak with very great experience. I cannot help thinking that a little more discipline would improve them.

3759. Would you continue the physical training there?—What I mean was more a regular sort of military drill, and possibly Morris tube shooting, and that sort of thing.

3760. But no more advanced course of physical exercises, what I call physical exercises, as distinguished from drill?—Yes; I think all these things are good for them.

Compulsion for two years after school desirable.

3761. What would your view be about making such a course compulsory on all lads between fourteen and eighteen. I suppose you admit the advantage to the youth of that age of being physically trained?—Oh, I do.

3762. Do you think it is of so much importance that you would like to see a course of physical training made compulsory between these ages?—Fourteen to eighteen?

3763. Yes?—Well, I do not think it would be necessary to extend it over so many years. I should have thought two years; I should like to see them have two years.

3764. However long it was?—It is rather a difficult question to answer off-hand, but I should be inclined,

Mr W. C. Bridgeman.
14 May '02.

Underfeeding: special committee.

on the spur of the moment, to say that I thought it would do much more good than harm.

3765. I suppose you have a good many children who are not very well fed; how do you deal with them?—Well, there are very few that are not well enough to take their ordinary physical exercise lesson.

3766. Is any special supervision given to the matter. Suppose a child is obviously not fit; suppose it comes to school without having had anything to eat, is any notice taken of that?—Well, nearly all the children get a meal by some agency or other.

3767. But what; is it a School Board agency?—Well, we have got what is called the Under-fed Children Sub-Committee in the Board, which is supposed to put any children who come to school insufficiently fed into communication with the voluntary agency to feed them.

3768. The School Board does recognise its duty in the matter and uses its best endeavours?—We do not recognise that it is our duty to feed them out of the rates that we raise.

3769. Not to feed them, but to see that they are fed?—Yes.

3770. You have a special organisation for that purpose?—We have got a committee, and we communicate with the different agencies—the London Schools' Dinners Association, *The Referee* Fund, and all the private funds which feed, and each teacher has to make a list of the children who go every week, and so on.

3771. You try and secure, as far as you can, that they are fed?—We try; yes. I am quite sure that there are no children really underfed now in the London Board Schools.

3772. But there would be a difficulty if it were not for these agencies?—There would be; yes. I think if anything, there are children who could be fed at home going to these agencies rather than children who come to school and are not discovered.

3773. There is some misuse?—Yes; I do not think that any child could possibly be long in school without the teacher finding out.

3774. What I wanted to get was that the School Board try to secure that they are fed?—Yes.

Teachers.

3775. *By Mr Alston.*—In your answer to Sir Henry Craik I think you said you exacted twenty-three lessons from the teachers?—I believe it is twenty-three; I would not be absolutely certain as to the number.

3776. You make it compulsory that they shall take this instruction?—Well, of course, if they do not want an increase in their salary they need not take it.

3777. Does it depend only upon desiring an increase; it is not a *sine quâ non* as being teachers?—I think not.

3778. We were told by one witness that to make a teacher perfectly competent to instruct in physical exercises in the school it would require two hours a day for six months. Is there anything like that conceived by your Board?—Our teachers have all been through training colleges, or nearly all of them; they have had a good deal of teaching there.

3779. Before they come to you?—Yes.

3780. That is above and beyond the twenty-three lessons?—Yes.

3781. Then do you find these teachers are all perfectly competent, when so qualified, to take the physical exercises in any school?—I should not like to say that any of them is perfectly competent.

3782. Would you require expert supervision?—Well, our organisers go round and watch their work and report from time to time. There are teachers who have gone through this course who do become slack, and there are some for whom the course is not sufficient. I should be very sorry to say they are all perfectly competent to teach that or any other subject.

3783. Do you work upon a uniform system of instruction?—There is a syllabus that we issue for physical training and for the boys—yes. I think there are very few boys' schools that still have the Swedish system, and all the others use what we call Chesterton's system, and the girls practically, I think—yes, the majority of them at anyrate—the Swedish system.

3784. You do not insist upon a uniform system of teaching physical drill?—We allow either the Swedish or Chesterton.

3785. *By Mr Shaw Stewart.*—Just one question on the subject of games, on which I know you have got considerable experience. It has been suggested to us that supposing in towns and cities schools contained ground for games, teachers might be relieved from the organisation of these games by outside voluntary assistance; have you ever had any experience of that in connection with the School Board?—I think it would be a very good thing if the managers of schools could make some sort of physical exercise sub-committee amongst themselves. I have often thought of that and wondered if they could work it, but in London our object is to let the managers of our schools do nothing at all.

3786. What do you mean by the managers of your schools?—We are the managers, the School Board is, but we have a board of local managers who meet once a month, and under our system they are allowed to discuss the matters of no consequence.

3787. Including games?—No; they are not consulted about that. They ought to be, I think.

3788. Oh, I see?—But as a rule the difficulty in getting managers is because they say when they are managers there is nothing for them to do, and I think if there was something definite of that sort for them to do, they would get very much better managers. There are a few instances of outside people who help, and they are of very great value both in contributing prizes and things of that sort, and also in actually looking after the games, but as a rule the vast majority of the work is done by the teacher.

3789. It would relieve the teachers, of course, a good deal if some outside help could be obtained?—It would; but it is an immense advantage to the teacher to be in it all, because it just gives him the popularity with the boys which helps him to do his work in the school to greater effect.

3790. Yes, but I suppose the teacher would welcome good assistance from outside?—Yes; I do not think he would like to be out of it himself. I think the good teachers like to be in it.

The witness withdrew.

Miss E. Kingston.

Miss E. Kingston, examined.

3791. *By the Chairman.*—You are Organising Teacher of Physical Education for Girls and Infants to the London School Board generally or to any particular school?—To the London School Board generally.

3792. Generally, for everything?—No; for the physical exercises of the London schools.

3793. But all the schools?—No; one-third of the London schools. I am one of three organisers.

3794. Can you tell us what sort of number of schools is under you?—I think 180 schools, two departments in each school.

3795. Girls' department and infants' department?—Girls' department and infant department, and in some schools we have three—the junior children. I take the junior children, boys and girls are taken together.

3796. I think it would be convenient if you were to go through what you have put down here?—I shall be very pleased to. First of all, with regard to our work. We organise the work, and teach the teachers, first of all, and what we teach the teachers we expect them to impart to the children. We give them a course which is taken in the girls' school chiefly. We moderate it a great deal, of course, for infants, but we practically start our course with infants. With infant children we

take the elementary positions. They are very elementary, but they are preparatory to the work of the girls and the junior children, and we give a course of twenty-five lessons to the teachers who attend our classes, and at the end of the course they are subjected to an examination, one part of which is a practical examination on the practical part of the work that they have taken, and one part is a theoretical examination that is based chiefly upon the points which I have mentioned there. The first part of the theoretical examination deals with physiological work. It practically covers a course which is covered by the elementary stage of physiology, and the second part of it we take up the main parts relative to physical training, dealing chiefly with the children. We take up such points as ordinary physical deformities which are apparent to the teachers, and secondly with regard to the bad positions which children assume during school life, and certain points with regard to over-exercise, and how they should be watched by the teacher. Those deal chiefly with the theoretical part of physical exercise, and that is the course we take with our teachers. Then, with regard to the practical work, we see that that is carried out in the schools. I visit the schools every day, when I am not employed in the evenings, and inspect the work of these teachers who have been in training with me during a course, and put to rights anything which requires putting right, and help the young teachers forward in their work. Then, with regard to the others, those who have been in training in previous years, I inspect their work to see if the standard of efficiency is maintained that I have seen before. That work goes on in both girls' and infant schools, and that takes the greater part of our time. My colleagues are the same; I am one of the three who take the same. We work to that scheme of work. We take the Swedish system, and it has been in vogue in the girls' schools for eighteen or nineteen years. We have never changed our system since first it was started. Madame Osterberg, who was a Swede, first introduced it into the schools, and that is the system which is in vogue in the girls' and infants' schools to this day. We have never changed it. With regard to the upper standards, especially in our higher grade schools, we feel sure that the girls are physically fit to take work of a more advanced character, and we introduce, in order to make a little variety, as much as anything, a few dumb-bell exercises and a few bar-bell exercises, but we only give those to the schools. I only recommend them really to those schools where I consider the children are physically fit to do the work. By physically fit I mean well-nourished and developed generally. Then in very few schools, in our higher grade schools, I have recommended an apparatus. In all the classes from Standard V. upwards, most of them are working these advanced movements, and we do not take any work beyond that. We have three gymnasia which are fitted with what they call the fixed apparatus, but very little of it is used. I do not think the girls are at all fit to put on this apparatus, neither have they had sufficient training. If they could have been trained well for many years or with dumb-bells and bar-bells and with very light apparatus, perhaps they would be better fit to put upon the fixed apparatus. Then with regard to swimming, that is a point of course we are making great strides in, but there is nothing compulsory about the teaching of swimming. With regard to the teaching of our physical exercise it is made compulsory by the School Board; and they are obliged to give a certain time each week to nothing but physical exercises. That certain time is an hour per week. In infant schools it is a quarter of an hour; they have a quarter of an hour each day. But in the girls' schools they have the one hour, and that hour is divided according to Board rules. Now within the last month or two they have rearranged the work. We used to give them one lesson a week, one definite lesson of twenty or thirty minutes' duration and a few minutes each morning or afternoon, five minutes or ten minutes, but I found on inspecting the work that these five minutes were not used; five minutes are so easily slipped, not perhaps intentionally, but it is gone before the teachers realised that the five minutes is done. Practically it was five minutes down on the time-table, and it was not used at all, the children did not get the benefit of the work that I should have liked them to have had. Then we altered the time and divided the hour into four quarters of an hour or three twenty minutes' lessons, and most of the schools now are working the three twenty minutes' lessons with the exception of the higher grade schools, and they are allowed to take two half hours a week in place of the three twenty minutes' lessons, partly because it is easier to arrange the time-table. In all our ordinary schools now we are working the three twenty minutes' lessons and the teachers are finding the benefit of the work in getting the three definite lessons a week. Then with regard to the question of swimming, that, as I say, is not compulsory, but each year as I visit the schools, I recommend or advise the teachers to see what they can do with regard to the teaching of swimming, and last year I am glad to say we have made rapid strides. The year before, I think it was 1900, we had nearly 900 girls who took what we call the certificate which is issued by the Board for swimming twenty yards. At the end of the last swimming season we had 1062 swimming certificates, but that does not mean that that was all the children really who are taught to swim. There are others who perhaps do not go in for the certificate and can swim a few yards; then perhaps the following year they will be able to complete the required length, so that each year we are making strides in regard to that. And the teaching of life-saving, too, is making a very marked progress. This year, I am glad to say, our Board of Education has recognised the scheme of work which has been drawn up by the Life-Saving Society (whose president is the Prince of Wales), and which does a great deal to help us in this branch of work in the schools. The scheme has been adopted by the Board of Education; a grant is to be paid on it, I think, in the following year, but they have left out, we are very sorry to see, the main point with regard to the teaching of life-saving. They recognise the work which is done on the land, that is, the form of drills that we use, but they do not recognise the teaching in the water. They have left out what we call all our water practice, which is certainly to be regretted, because the land drill is no use without the water practice. That, of course, does not require any explaining at all, but still we are making progress in that direction, and I am hoping that the Board will soon make it compulsory that we shall take swimming. Until then we must be content to go on slowly as we are doing, but we are making progress certainly in that direction. Then a question about competitions was raised. We do give displays each year. The competitive element, I am glad to say, has been entirely done away with. We found that the competitions were really too great a tax upon the children. The organisers laid down certain rules with regard to children not doing more than could be done in the ordinary time-table time, that is, according to the hour a week, but we found that with all our rules it was impossible to say that it was done, and we found that the children were certainly being overtaxed physically, but now that it is turned into a kind of display the teachers do not mind at all; they do their best, and that is really all that they are called upon to do, so it is not a question of who comes out top. With regard to the question of the selection of schools for the displays, no school is allowed to enter for a competition or a display unless all the classes in the school, that means from Standard I. and upwards in the girls' school, are being instructed not only to the best of the teachers' ability but producing excellent results. They must produce excellent results throughout the school; that means that every child in the school which is selected to take part in the competition is receiving excellent instruction, and no school is allowed to enter unless that rule is carried out. In regard to the scheme of work, that is practically left to the organisers and the teachers in charge. They take sometimes what they

Miss E. Kempton.
14 May '02.

Division of time.

Swimming.

Displays: competitive element eliminated.

Miss E. Kingston.
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would like; we guide them a great deal in the selection of their work. Is there any other question that the Commission would like to put to me?

3797. I think you mentioned something about skipping?—Yes, we take skipping. I cannot say that it is taken in an organised way. Some schools will take it up and do a little during the winter months, but it is only very few schools that we mention; I should think about half a dozen schools now do a little skipping, and they take that in the playground more as a form of recreation.

Pupil teachers.

With regard to the pupil teachers, that is rather an important branch of my work. I cannot say that the work is altogether satisfactory in the pupil teachers' centres. We have one or two centres where the headmaster perhaps is an enthusiast in that respect, and he does all he can to give the girls as much exercise as it is possible to give them, but the curriculum, of course, is so crowded that they are glad to leave out any subject that it is possible to leave out. They do get a lesson in most centres about once a fortnight, from half an hour to an hour's duration, which is practically, from a physical point of view, of no good whatever to them. I do not think I can say in any pupil teachers' centre in London they have a lesson every week.

Fire drill: compulsory for all.

3798. Then fire drill, does that affect the girls?—Yes, it is made compulsory, but the whole school takes part in that. As I stated here, a bell is rung from the outside as a rule—the school bell, and all the three departments have to be prepared to answer that bell, and we get very sharp work done at times with it from the buildings. Of course we have not two buildings scarcely alike, so we have to arrange the drill. It is left entirely to the teachers to arrange to get out of the buildings in the quickest way they can, and we find on an average it is done in from two to three minutes, sometimes less, sometimes a little more. We get a big school of three departments, sometimes 1500 or 1600 children, out in the playground in that time, and that is practised very regularly too, and at times when the teachers are not prepared for it.

R. of playgrounds.

3799. You mentioned roof playgrounds. Are there many of them?—Yes, many, and particularly in poor districts, where they are glad to use them. Generally where there is a roof playground there is no hall, what we call a central hall in the schools, and the playground, which is down below, is very often much blocked in with houses. So they really do not get the proper air down there. The roof playgrounds are used to very great advantage by the children, and they are used a very great deal in regard to the physical exercises. In fine weather they are all taken upstairs.

3800. The floor of the roof playground is not flat, is it?—It is stone—asphalte, as a rule.

3801. Not lead?—Oh, no, no.

Swedish system.

3802. Do you find much difficulty in getting teachers to understand what you call the Swedish system?—No, none whatever. We have a scheme of work which is put into the hands of the teachers drawn up for each standard in the school. It is a graded scheme from Standard I. upwards, and the teachers work through that at the training class. The only difficulty is to really learn the commands, but when they once have had a little practice with them they find no difficulty with them.

3803. But the commands are in English, I suppose?—The commands are in English, oh yes, certainly.

Girls' dress.

3804. Then as to the girls' dress, do you find any difficulty about that?—No. I think you will find, my lord, that the children's dress nowadays is better suited to physical exercise than it used to be.

3805. And requires no alteration?—And requires no alteration.

3806. Now what about older girls, girls over fourteen?—We encourage them as far as possible to come in a blouse for their drill, and in some schools they have even gone so far as to get a few children into proper gymnastic costume. A teacher can do a lot in that direction, and does do a lot. It is simply a matter of encouragement. But with regard to our teachers, they require to be in costume when they go through the course.

3807. And as regards swimming exercise?—Of course they are in costume for that, and the costumes, as a rule, are made in the schools.

Miss Kings
14 May
Swimmi costume

3808. Who pays for these costumes?—The Board supplies the material, and the teachers make them in the schools.

3809. The teachers make them?—Well, the teachers and the children, I should say.

3810. It comes into the sewing class?—Into the ordinary school work.

3811. Therefore the cost is very little?—Very little, indeed.

3812. As the result of that?—It is not to be mentioned scarcely.

3813. But that is actually a definite object of the sewing work, the making of these costumes?—No, I should not say it comes in. It is taken, perhaps, to the younger children as a little practice work, but it is not done as proper sewing work—not for inspection.

3814. Not for inspection, but as regards the real work it is always something that is being done in that direction?—Decidedly, and it is a great help to the children. It is a training in the making of things of that description.

3815. I suppose very fine sewing is not required, is it?—Oh dear no, as long as it is suitable for the purpose.

3816. Rather superior basting?—Yes. Another thing, it encourages the children. They are interested in anything that they do like that for themselves, especially if they feel that afterwards they are going to use them.

Girls: compla from p

3817. Have you had any complaints from mothers about the girls doing physical exercises or swimming?—No. We used to have complaints once upon a time with regard to drill. As far back now as six or eight years I heard complaints about one or two movements in the drill, but we never hear anything said about it now.

3818. They are getting educated up to it?—I hope so; any way we are doing it as a matter of course in the schools. Of course there are several children withdrawn from the instruction occasionally; there are bound to be cases of that sort occasionally amongst the numbers we have to deal with.

Inspe

3819. You mentioned examinations; are these at fixed times or do you drop in on them whenever you think you will without any notice?—Without any notice; they never prepare their work for us; they do not know when we are coming.

3820. How long has that obtained?—About two years.

3821. Not much longer?—Not much, no.

3822. Before that?—We used to send a card to say we were coming.

3823. There was a regular high pressure?—Oh, we found that quite high, quite too frequently, but now I can really feel that with the present system of inspection that our work is certainly making rapid strides within the last two years.

Autho report

3824. Who is it at the head of your operations in every way?—We are under a committee of the School Board called the Physical Educational Sub-Committee.

3825. And you actually get all your directions from them or you simply have to report to them?—Well, we report and make suggestions and they consider the suggestions, and if they think they are worth carrying out we have instructions to do so. Each year we have to send in what we call the annual report upon the progress of our work.

3826. And do I understand you that this sub-committee engages you and all the organising teachers?—Oh yes, but the Board practically engage us.

3827. And before you are engaged do you have to produce anything in the way of a certificate?—Now the Board are getting rather arbitrary with regard to the qualifications of their instructors. I have been doing the present work for thirteen years, and I was trained under the organiser who died two years ago, and she was practically one of the first who followed Madame Ostaberg, and I was taken from one of the schools of

the Board and trained for the purpose. I was with her in training for five or six years as her assistant.

3828. And of course you think it is a great advantage that there should have been no change during all this time in the one system?—That is where we have the great strength of our work. It is now we are beginning to see the results of it in some schools I have just lately been examining under a neighbouring Board other than the London Board. They were not satisfied, and there I found in all their schools that not only was there a different system in every school, but that there was a different system in every class in the school. The consequence was that as the children were drafted up into a higher class they had something fresh to learn in the way of formations and turns, and things which, from a physical point of view, are really not of any value to the girls; it is a comparative waste of time, so that the greater part of the work during the following year had to be wasted—the time was wasted rather, I should say, in recapitulating or doing work which should have been taught in Standard I. and wanted no fresh teaching.

3829. Do I understand that that was in a neighbouring School Board area?—Yes, in a neighbouring School Board.

3830. Then as regards voluntary schools, have you anything to do with them?—I have not.

3831. You have never been invited to them?—I have been; I have taught church school teachers. I have worked one or two classes of church school teachers, and have visited their schools to see their work done, but of course the conditions under which they teach are so different from our own. I do not think I have ever been in a voluntary school anywhere where I have seen a proper space for the children to drill, the forms and things, the whole apparatus of the school; it is so difficult for them to produce the results that we do.

3832. Were these Church of England schools?—Yes, mostly.

3833. Have you any acquaintance with Roman Catholic schools?—No; none whatever.

3834. You have never seen them, because I mean we have had certain evidence given to us that at some Roman Catholic schools they pay a great deal of attention to physical exercises; you don't happen to know anything that can substantiate that?—No; I do not.

3835. And other schools, other religious bodies, other than the Church of England?—I had a class once; it was a mixed class, mostly Church of England school teachers, and I had a few quite undenominational too. I had one or two Wesleyans; I visited one or two Wesleyan schools, two I have in my mind in particular, and there I found the condition much the same as they were in our Church of England schools. The conditions under which the children were taught, of course, hampered their work very much, and the children that I saw, the teachers' classes I examined, really had had no previous training, and of course the work comes very hard to the children for the first year or so; at any rate it is more difficult to them than if they are trained from infants upwards. I do not want you to understand that our work in an infants' school is of a very advanced nature. It is not. We deal chiefly with marching; we teach a lot of marching, walking, in infant schools, and simple arm extensions and shoulder-blade movements, and many of these we put to music, but we do not advocate music very much.

3836. To what do you attribute the fact of having more room in the schools to what apparently exists in the church schools?—The buildings are constructed so differently.

3837. No; but do you put it down to the fact of your being able to rate?—I expect that is it.

3838. As against the sum which has to be voluntarily given?—Some of our schools are quite as bad as many of the voluntary schools which I saw. I know several of mine in my east end district where the conditions are equally as bad, but there they have in many cases a roof playground, or if they have not that, they have a playground outside that they can use, but the voluntary schools suffer very much in that direction. They seem to have no space. They use the floor space in the rooms. They seem to have no proper playgrounds.

3839. As often as not an adjunct to the church, are they not?—Yes, more often than not; so that if they have any playground at all it is not worth the name of a playground; it is scarcely as large as the school itself, the space is very small; our Board Schools, even the worst of them, have an outer space somewhere where they can practise.

System in Sweden.

3840. Have you any experience in the way of physical education outside London, either from actual knowledge of it, or from what you have seen on your holidays and so forth?—I have been to Sweden and I have been through all the Swedish schools. When I say all, a fair proportion of the Swedish schools, that is the national schools there which take the same place almost as our large schools.

3841. Can you tell the Commission whether the drill—I suppose you have naturally seen it when you were there?—Yes; that was the purpose for which I went.

3842. Is very much the same given to girls there as is given to girls in London?—Yes; only I think we came back feeling satisfied we are rather a little in advance of them there.

3843. When was that, may I ask?—Nine years ago.

3844. For all you know Sweden may have progressed?—I am sure of it, because they have produced some very fine specimens, and I hear—this is only from hearsay—that in the American schools they are adopting the Swedish system throughout many of the girls' schools. It is becoming very general even there, but the Swedish system is taken throughout all the Swedish schools, throughout the schools in Stockholm, and they have but one system there the same as we have.

3845. Now, in other parts of this country do you happen to know that the Swedish system is adopted?—I do not.

3846. You have no reason to know?—I have no reason to know; I know in one or two of the big Boards of the North they do not, but one just recently has adopted it, or are going to adopt it, if they have not already started.

Girls: all taught physical training.

3847. *Sir Thomas Coats.*—I understand you to say that all the girls in the London Board Schools get physical training?—All, sir.

System.

3848. And how long has this system been going on, I mean this thorough system of physical training for the girls—how many years?—It is quite eighteen or nineteen years I know. Madame Osterberg was the first to start it, and it was many years before I started, and that is thirteen years; this is my thirteenth year.

3849. And all given pretty much on the same system?—Exactly the same; I have not altered it at all. We have made progress and we have added to our exercises year by year, but the same system throughout has been in vogue since then.

Increased time.

3850. Has the amount of time given per week been increased lately?—Oh, yes.

3851. Very much increased?—I think two years ago the Board made it compulsory that the hour, one hour per week, should be given. That was really before our Board of Education took it up and showed definitely what we were to give, quite twelve months before they made that definite rule. Our London School Board were having an hour per week in their schools, but before that it was left to the teachers to put it in when they could, but they must put it in somewhere. The consequence was we used to get one half hour lesson a week; as a rule it was generally put in at the end of the afternoon session. That went on for many years; but, of course, the Board had made no special point in regard to it and there was nothing compulsory, so that really all we could do was to persuade the teachers to put it into a better place and to divide the half hour up into shorter lessons; but for the last two years we have had one hour per week, and within the last twelve months the Board have decided that they are to give three

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definite lessons a week, that means three twenty minutes' lessons except in the higher grade schools, and there they have to get two half hour lessons per week.

Physical training: good effects.

3852. Have you noticed great improvement in the physical development and the health of the children, that is, in the children from the time they first came to the school, and after they have had this training?—Yes, I think you will find our progress is really wonderful—it is an exception now when we find a child really what I call badly shaped; of course there are many little physical defects which are always apparent to a teacher, such as poking chins and flat chests, but these are more uncommon than they used to be. The children are getting very much straighter. I must say the teachers are taking an interest in these children now, and I will often find when I visit the schools certain children who are malformed directly under the supervision of the teacher, directly under her eye, so that she can be near to counteract any little defect that is necessary. Of course there are some cases which really require different exercises to what they are having at school; they require medical treatment, but of course all the teachers can give them is just the ordinary school work.

3853. I think you said that teachers had lessons in physiology so that they were able to carry out special practice?—They are able to detect and correct minor faults in the children, and that I think of course is the chief aim of our work in schools—to counteract the little physical defects that you see in children—they are nothing serious, but they can be overcome quite well, and are overcome, too, by the system of physical drill.

3854. Then the time that the full hour a week was given was two years ago, I think you said?—Yes, about that.

3855. From that time have you noticed a great improvement on the children over the half hour?—Yes, I have no hesitation in saying that.

Teachers.

3856. *By Sir Henry Craik.*—Have you found any backwardness on the part of the ordinary teachers to recognise this subject?—No; but we have had to educate the teachers to it the same as we have had to educate the parents, but now we have our own teachers, of course it is compulsory that all teachers should be qualified according to Board rules. But that was not made compulsory until a year or two back, and then the teachers used to give if they wished, and others who did not consider themselves strong enough of course were left outside. When the Board made it compulsory that all must do it for about two years, we have been inundated with teachers who certainly were not physically suitable to undergo the course. They were too old, but they had to give it, and so they came and made the best of it, so that we really do accept from them what we would not accept from our younger teachers now. In our training classes we are getting girls who come almost direct from college; in fact, the college course now is the same in many colleges as our Board courses. I am teaching it in three of the training colleges myself, so that when these students come out of the training college, all they have to do is to sit for the Board's examination. The Board require them to do that, and the teachers accept it as part of their work; they do not question it at all.

3857. But at first they complained that it was adding to their work, and interfering with their rest?—Oh, very much.

3858. When they took it as matter of course as part of the curriculum the difficulty has disappeared?—We have no difficulty. I cannot say we have any at all. With regard to teachers they accept it; there are a few teachers who are allowed to be exempted. The Board will exempt any teacher if she will produce a medical certificate.

3859. Yes; but in no school is the absence of all physical instruction tolerated?—Oh no; nowhere, and all our teachers, I may say, with the exception of a few, are qualified to teach the subject that they have to teach.

3860. And when you began as inspectress did you find any schools where it was very much neglected?—Oh, many, the greater part of them; we would perhaps find one teacher in the school who would be teaching one class, but there was nothing organised with the work. She took what she thought she would take. Then perhaps those children did not have any drill again until somebody else came along who could take them.

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3861. Now they are educated to think differently?—Oh yes; I am sure they are.

Boots: shoes preferable: expense.

3862. *By Mr Shaw Stewart.*—Referring to the syllabus of exercises, I do not see any provision made for any tip-toe exercises for small children?—Yes, we have numbers of tip-toe exercises.

3863. I must have overlooked it?—They are included in what we call our 'leg movements,' sir; our leg movements will include all exercises which have to do with the movements of the legs.

3864. For that purpose do you have to remove the boots?—No; there is one of our greatest difficulties, with regard to the children being so badly shod. You see their feet are so badly balanced on account of these boots. They would be better without them, but it is not always practical to take their boots off. Of course in England we do not have children without boots, they will have boots on if they are ever so old; if they have almost to be tied on they will have boots. In all the east end schools, I may safely say, I have never seen a girl drilling without boots.

3865. But would it be an advantage if the children put on shoes when they came to the school and kept them on?—Oh yes; I would like them to have what they call the Plimsoll india-rubber shoes.

3866. The movements would be more valuable?—Oh, much more perfect; we are obliged of course to work under disadvantages with regard to that.

3867. But do you think it would be practicable?—It would be a great expense; it is practicable enough.

3868. *By the Chairman.*—A great expense?—A great expense. We do get them in some of our schools; we encourage our children, we have done a lot in the last few years in that direction. The children are getting enthusiastic. It all depends upon the teacher. A good teacher will get her children to do almost anything, and can get almost anything from their parents. One school I have in my mind. I have gone into the school when they have been having their lesson, and if they know it is to be drill lesson they have old house shoes which are really not suitable for anything except for the house, and I have seen them tied on with pieces of string even, so long as they are able to move. The children realise that they cannot drill so well with boots which of course are fixed round the ankles or at the heels.

3869. But would the expense be very great if it was provided in some form by the schools?—No, not so great as it is for other subjects, and they would be a great benefit; not so great as some of the apparatus which is supplied.

3870. Do you think it would be of advantage to bear some of the expense of providing useful shoes?—Oh, certainly.

3871. Even at the expense of some other apparatus which is provided?—Certainly I do; oh yes.

Type of children.

3872. *By Mr Alston.*—What is the type of your lower class London children?—Well, I was going to make a comparison, but perhaps it it not right.

3873. I mean are they light in figure?—Yes, they are, but I think it is through bad feeding. They are so very thin; there seems to be nothing substantial about them. Really one feels when I have been giving a lesson to the children, perhaps, for ten minutes, these children will work with as much vigour as you wish them to work, but it slackens, it gradually goes off, and it is quite perceptible; they work up to a certain point, and they have not the stamina; they have not the grit in them to continue the movements with that amount of vigour that they had at the beginning.

3874. I think in Scotland the type of our lower class girl is rather thick-set and clumsy, with a rolling movement of the body and heavy clumping of the foot: is that so in London?—Well, of course, un-

gainliness is really one of the great things, but I do not say the London children are awkward; I would not say they were thick-set or awkward children by any means, and it is astonishing what can be done with them.

3875. I wanted to ask the question, because I think you will have less trouble in making your children acquire graceful attitudes and graceful movements than we have in Scotland with the same class?—Possibly. I was much struck in visiting Glasgow, about two years ago, to see the wretched state of the children there.

3876. On the streets?—On the streets, yes. I made the remark to a friend I was with there. I was amongst the slums of London the greater part of my week, but I do not think if I looked I could find children who were so badly shaped; there were so many ricketty children, bow-legged children, children with their knees turned in. It was quite perceptible. Perhaps I am looking out for that more than an ordinary observer.

3877. No doubt you are?—But I was very much struck.

3878. Did you see any of the schools?—No, no schools.

3879. Neither the Board Schools nor the Reformatories?—No; I was only there during the holiday time, and the schools were closed.

3880. How far would you go in extending the time allowed for physical exercise, with due regard to the other branches?—To be of any real benefit to the children, they ought to have a drill lesson every day.

3881. To what would you go?—A quarter of an hour or twenty minutes is quite enough for the child to work well.

3882. You think that would not interfere with the school lessons?—I would not like to say. I have been a practical teacher myself, and I know the subjects, so many subjects have to be brought into that time-table, that one has to be almost grateful for small mercies in that direction; but looking at it from a health point of view I do not think the children would lose the time at all; they would not suffer from it in any way; in fact, the teacher would feel the benefit of the extra brightness the children would bring to their work after the lesson.

3883. One other point: we have had evidence as to the use of music in the physical exercises, and I think the evidence, except in one case, has all gone in favour of using music with the exercises. I think you are the second witness who has been distinctly against it?—I am distinctly against it.

3884. And upon very good grounds?—I have tried it; mind you, it is possible to get what I call excellent musical drill; I am not going to say that it is not, but it makes the work doubly hard. Teachers have told me; I have the advice really of good practical teachers on the point, and they assure me that to get good musical drill, done as it should be done, it is very, very hard work, because the children are simply carried away with the music, with the rhythm of the music, that they forget the proper execution of the movement, and I am strongly of opinion that every movement for girls—I am not speaking so much for infants, but for girls who can think—should be well thought out, and the mind should be brought to bear upon the movements themselves to a very great extent, and that cannot be done with the music, or is not done when music is brought into prominence.

3885. *By Mr Fergusson.*—I think your statement has been so very clear and so extremely interesting, if I may say so, that I have hardly anything to ask. There is one point I was going to ask you about, that is music, but you have said everything that I should have liked you to say, so I will leave it there?—I should like very much for the gentlemen of the Commission to see some of the work in our schools; it is so much more satisfactory to see what is being done. I do not mean any prepared work, but to see really what we are doing under ordinary circumstances every day; it would be so much more satisfactory to everyone concerned.

3886. I feel sure we shall all be very pleased; as to the system, you only teach the girls and the infants?—The girls, the infants, and the junior boys.

3887. You teach them what is known as the Swedish system?—I do.

3888. Are not the boys taught Chesterton's?—Yes, sir, I think they are now.

3889. That is different?—It is different; it is a mixture.

Two systems

3890. Then in fact you have two systems in your schools; you have the Swedish and you have the Chesterton?—Yes, we have: we used to take the Swedish system in the boys' schools when we had no organiser, and Dr Brooman, who used to be our organiser some years ago, taught the Swedish system, but he has left the service of the Board and taken up medical gymnastics now.

3891. Is there no difficulty in having these two systems working in the same school?—We do not find the girls and the boys class clash at all, sir. There are very few schools where our boys and girls are taught together. There was only one point upon which we used to clash, and that was in the matter of turning, and turning taught used to be different, so that when our junior boys or infants went into the boys' schools the teachers used to tell me they had great trouble in undoing what had been taught, but now the turn has been made the same for both; that was only just a minor point.

3892. You know Chesterton's system?—Yes, I know it, sir.

3893. Do you think it is as good as the Swedish?—I suppose it would be considered prejudice if I say no. I hope it will not be. I am firmly convinced that there are many points in Chesterton's system which are quite right; there is no doubt about it; but it is a mixture, and if you have an excellent system in vogue from which I have seen such excellent results which we have, why introduce another?

3894. No, but would you be prepared to recommend that the Swedish system should be taught to all up to the age of fourteen?—Yes, sir.

3895. You would like to have the Swedish system and nothing but the Swedish system?—I should; certainly I should.

3896. At present you give twenty minutes three times a week?—That is so, except in the higher grade schools, and there they are two half hours.

3897. You would like to have a quarter of an hour each day?—Or twenty minutes each day.

Inspection.

3898. When your schools are inspected is your physical work very closely looked at by the school inspectors?—I am sorry to say it is not. We are not helped in the least by our Government inspectors; of course it all depends upon the inspector himself; in some districts he will ask to see it, and perhaps he will select one class from the whole school. Well, that is satisfactory so far as it goes, but in some districts it is entirely ignored.

3899. That must be rather discouraging to teachers?—It is because they feel it is not taken so much notice of, and, therefore, when they can spare a few minutes for other subjects they would not certainly give it to drill.

Medical test for teachers.

3900. *By Professor Ogston.*—I should like to ask Miss Kingston one or two questions where her experience of girls would be of assistance to us. First of all, might I ask to know how you test the medical fitness of your teachers who are entering?—We do not test them medically; we have no means, of course. Under the London Board no teacher is approved unless she has passed the medical officer in the first instance.

3901. You have a medical officer for the Board?—Yes.

3902. Who tests her upon some recognised system, and certifies that she is fit?—For her work as a teacher, and the examination now is very thorough indeed, almost you may say—

3903. Stringent?—Yes, stringent is a better word. The girls are medically examined to the very utmost, so that a girl now who comes under the Board is

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physically fit for her work. We very rarely have girls that we discover there is anything wrong with afterwards. Our teachers are stronger now, and it is merely that examination that they have to undergo—the medical examination.

Girls.

3904. Well, then, as regards girls, do you find that they are susceptible of being disturbed in any way as regards the balance between their mental work and bodily work, especially by physical training?—No, sir; I have not found that at all. I find that the girls themselves are brighter after their lesson, and they do not require any calming down, any extra calming down as they do with the boys.

3905. And even at the period of adolescence you do not think that any system of physical training requires to be attended with greater precautions in the case of girls?—Most decidedly, and very especially in our higher grade schools; we have to pay particular attention to it, and the teachers are noted; they have special hints given to them with regard to the girls, and girls are often excused from their drill.

3906. Is there any useful point that you would like to tell the Commission regarding that, or does what you have said convey everything that you think necessary?—There is only one point with regard to that that I think should receive notice. Girls at that age will undertake more work to a certain extent than they will do when they are not quite so old, and I think the teacher is a little inclined to try fresh things at that age. She will try another system, or give them perhaps skipping, for instance, which I do not think is altogether good for girls, at that age particularly. I think we ought to be particularly careful with regard to that, and their work should be very, very gradual; they should not feel it, and they do not feel it under ordinary circumstances, unless an extra amount of work is put upon them. For instance, in the swimming, we find rather a difficulty with regard to that at that age. We like to get our girls a little younger, if possible, to start them swimming. We do not get them till Standard VI. or VII.—twelve or thirteen, or fourteen years of age. We like to get them in our Standard IV. when they are a little younger. We find the children are better able to stand the extra exertion there than they are later on. The girls fail very much when they get about thirteen or fourteen, and they do not like their drill then so much; it is more of an effort to them, and there is no doubt about it it is from a physical point of view, and we are obliged to think so.

Apparatus work bad for girls.

3907. Is there any kind of physical training that you consider bad for girls?—The apparatus work.

3908. Distinctly bad?—I consider distinctly bad for girls; that is, what we call horizontal bars and parallel bars, and I think, in voluntary schools particularly and in schools where they have had no guidance with regard to the work, that there is a good deal of apparatus work in vogue you will find.

3909. And gymnastics of that kind you consider altogether bad for girls?—Altogether bad for girls; for girls of that age any way.

Physical defects.

3910. Do you find much physical defect in children whom you come into contact with?—These defects really which are notable in all children as they are growing unless they are corrected. We get, for instance, what we call the poking chin; that is, I think, the worst fault to deal with. I think it is sitting at lessons with badly-constructed desks that brings it about. They get to that position, and that brings about the rounding shoulders, and the flat chest, and the protruding stomach—a very common fault that is amongst the children, but it is overcome. We try to overcome it. We have special exercises for overcoming it, and we work these exercises very regularly through, with the upper girls particularly.

3911. And the effect of the physical training, such as you advocate, in removing that, is very marked?—Oh, very marked, very marked, and it should be too, if the drill is good.

3912. Do you find many little deficiencies that are defects, but perhaps not deformities in the lower limbs?—Not so many. It is a very rare thing to see a child what we call bow-legged.

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3913. Or the reverse?—Or the reverse.

3914. Or flat feet?—The reverse. It is quite an exception, quite; but turned-in toes, which curve, I think, from the ankle joints, is the commonest fault about them. It is not so much the legs. I have tested children's legs often, and the legs from the ankles to the knees have been as they should be.

3915. And your observation has been very narrow, your test has been severe?—Oh, I have taken exceptional cases with children, and tried to find out really what has brought it about, and I find that the exercises overcome that a great deal. We do not have nearly so much of it, but what I have noted particularly amongst the children, and it is very marked, is that one of their arms is much longer than the other, which is a proof that one side of their body is developed to a greater extent than the other; that is very marked in the seniors.

3916. The right arm?—The right arm. Of course, it is the greater use, I presume, of that side of the body that brings it about. For that reason we start all our exercises and work them all from the left to encourage the use of the left side of the body.

Medical inspecti

3917. How far do you think that a medical inspection of the children in the schools would be of assistance in their physical training?—Well, I was going to make a proposal to the Board not long ago with regard to drawing from the classes all the children who had physical defects, putting them together in a class, and putting them under one special teacher, but it was a very big work, and I found that it would take a very long time to do it; but there is no doubt that the children would be benefited by the special attention. But if you do that, I do not think that quite comes within the range of our work. It comes into what we call medical gymnastics, and in ordinary work we ought not to deal with medical work.

Special for defe children

3918. Would you say that one-third of the children whom you have in the junior classes would require to be put into this special medical contingent?—Oh no, sir; I should not say one-eighth.

3919. But one-eighth would be an approximation to the truth?—Yes; from just gauging the numbers roughly I should imagine that one-eighth would be quite near to it.

3920. And that would comprehend the children who are slightly defective, but, of course, not the exceptional cases of cripple or extremely deformed?—Not with curvature. Quite so, sir.

Cripp

3921. How do you deal with cripples?—We do not do anything at all with them; if the child has curvature we withdraw her as a rule from the instruction. The exercises might benefit the child, but we are not to know exactly where the curvature is, nor yet what is the curvature, nor yet what has brought it about, so that you really might accelerate things which are at work rather than overcome them.

3922. But those children still attend school although not the physical training classes?—Yes. I came across a child the other day who had an iron up her back, her spine, marching with the other children. When it was proposed to withdraw her from the class there came the message: 'Please do not; let her be with 'the other children; it does not hurt her at all; she 'likes doing the work.' It does not hurt her at all, and she is very anxious to do what she can, and she was doing the exercises with the arms fairly well, and it evidently did not hurt the child or she would have stopped. But I do not encourage cases like that; I do not think it is exactly right.

Incu

3923. Have you been brought face to face with the question of dealing with incurable children?—Only from hearsay; in fact, I did visit a medical gymnasium once, that was Dr Rollis'. There I saw him doing medical work, but the exercises that he took were almost the same as we are teaching in our schools, only of a more advanced character, and exercises which were entirely suited to the patient.

3924. But you as an instructor under the London

School Board have no connection with the physical training of children who are incurable?—No, sir; not at all.

3925. Have you had any inquiry made to your knowledge regarding deficient eyesight?—We have had in schools. Of course children's eyesight is tested in schools now.

3926. Tested by a medical officer?—No; by the teachers. They have certain rules laid down with regard to the children's eyesight. They have a card of letters painted, and definite rules with regard to these letters, and if a child when he is admitted to the school is found to have defective eyesight, that is, cannot read letters below a certain standard, a note is immediately sent to the parents and the child is sent to the hospital to be supplied with glasses. Great attention has been paid to the eyesight of the children within the last twelve months; it is only just recently that this has been in vogue.

3927. Do you find that the physical training is beneficial to the manners of the children as well as to their carriage?—In school, yes.

3928. In school I mean?—Yes, decidedly, but out of school I cannot say very much about it, unfortunately.

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3929. Have you any opinion regarding the effect of physical training upon the morals of girls?—Oh, yes; I have the greatest faith in that, and I really believe it is the means of restraining girls in many ways. It should have that result any way if it has not, it is one of our aims chiefly. Morals.

3930. In your evidence you spoke of life-saving apparatus. I suppose of course you do not regard that as a species of physical training; it is more a useful acquirement?—Of course swimming itself is a physical training; there is no doubt about it, it is one of the best forms of exercise that can be advocated, one of the very best, and of course life-saving, which I consider should follow swimming, is essential from a humane point of view, and is most useful; the children in the London Board Schools have saved many lives even in the ponds and places where they have been bathing. We have now a record list; we keep a record list of children who have done things of that description. Life-saving and swimming.

3931. So that although life-saving on land is not necessarily a species of physical training, you consider it a necessary corollary to swimming?—Very necessary.

The witness withdrew.

Adjourned.

EIGHTH DAY.

Thursday, 15th May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

Sir THOMAS GLEN COATS, Bart.
Sir HENRY CRAIK, K.C.B.
Mr M. H. SHAW STEWART, M.P.
Mr J. C. ALSTON.
Mr J. B. FERGUSSON.
Mr GEORGE M'CRAE, M.P.
Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr THOMAS CHESTERTON, examined.

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3932. *By the Chairman.*—You are the Organising Teacher of Physical Education to the London School Board?—Yes, my lord.

3933. And how long have you been so?—Upwards of thirteen years.

3934. You have got your evidence before you: will you kindly go through it?—The importance of physical exercise is, at the present day, almost universally recognised, but the form most suitable to the requirements of school children varies in the opinion of authorities, some advocating military drill only, some favouring systematic physical exercises, and others recommending games. When the matter is carefully studied it will be found that all three forms of exercise are essential to the all-round development of children, and that no single form can be considered as sufficient for an ideal training.

Military drill is indispensable in securing discipline and a ready response to orders; systematic physical exercises provide beneficial training for all parts of the body, and aid in attaining that 'set-up' which is so essential in giving to children a smart carriage; while from games, although here the above-mentioned points are only matters of secondary consideration, a great amount of physical and moral benefit is derived.

In the country and large public schools, where it is possible to obtain sufficient space for recreative purposes, games are to be strongly recommended, particularly for the elder children, but when children are restricted to a limited area, as is the case in many of the playgrounds of the metropolitan and large provincial schools, games cannot be advantageously employed. It is here that systematic physical exercises are essential, ensuring to each child as much healthy relaxation and exercise as time and circumstances will permit.

The primary object in teaching physical exercises in schools is to ensure the systematic and gradual development of all parts of the child's body by regular practice in rhythmic and attractive movements. Such movements are a decided aid to maintaining school discipline in that, when conducted by the teacher of the class, they enable him to get that instant attention to detail and smartness of execution which are so characteristic of good discipline. To a certain extent the brain, during such exercises, is inactive, obedience to command is the chief impression conveyed, and a habit of strict Instruction: object.

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attention is formed which proves of the greatest aid to the teacher.

A strong reason for the introduction of a rational system of physical training for children is the fact that in recent years teachers have become alive to the necessity of adopting some form of drill or physical exercises to maintain order and attention in their classes, and to secure change from the monotony of study.

Benefits.

The benefits derived from teaching systematic physical exercises to school children is seen in the fact that all the muscles are brought into play in turn, and thus uniform development attained; the result being a healthy body in the best sense of the term.

A second benefit may be seen in the change and relaxation from mental studies, for whenever a few minutes are devoted to physical exercises during the middle of a session, not only does the brain become rested, but the circulation of the blood is increased, after its partial stoppage with sitting, etc., and thereby a degree of freshness and an increase of energy cannot fail to be apparent in the ensuing work of the morning or afternoon session.

A third benefit is that it leads the children to realise the value of co-operation—they get together, all striving to make their own individual exertions as perfect as possible, so as to aid in the best possible manner in the general effect.

Closely allied to this, and in fact almost inseparable from it, we have the moral and æsthetic effects. Thus goodwill, sociability, and even sympathy are fostered. Their natural craving for rhythm is satisfied. They become conscious of steady regular movements which have a peculiar soothing effect upon the mind. Their sense of beauty in regularity of movement and effects is strengthened. Their sense of time and even tune is developed. Finally, they become smart and prompt in performing movements, and consequently acquire splendid habits of deportment. They become graceful in all their movements, and, moreover, gradually come to learn to obey commands without that fatal hesitation which breeds carelessness and slovenliness. Thus the general discipline of a number of children is greatly benefited, and smartness consequently becomes a habit. Habits are part of our personality, hence the discipline and tone of the school are raised to a high standard. This discipline leads to a desire to smarter appearance, for a child soon conceives that if his movements are smartened, so must the appearance be made to agree. The result of all this is that the boy becomes eventually a man who is always on the alert, and one who will take a distinct pride in his appearance.

System of drill and physical exercise described.

It is highly irrational under the existing extensive curriculum of our elementary schools, and the limited time during which the children are under the control of the teachers, to attempt to carry out any elaborate system of physical training during school age. It is chiefly the above consideration which led me to compile my system of drill and physical exercises. The system is one compiled solely for the use of children, and in its compilation I brought to my aid an experience of eighteen years in teaching all branches of physical culture. There is no claim to originality, the adaptation and classification of the exercises being the only part which is original. The classification is the result of a close study of the chief anatomical and physiological functions of the body, and was made under expert medical supervision and advice. The system is thus a scientific one. The classification has regard to the fact that each class in a school consists of a large number of children, irrespective of age, physique, and social position; hence the exercises are adapted to suit the average child (male or female) of school age. Each exercise serves some physiological purpose, nothing being introduced for the mere sake of display or effect. The exercises can be performed by the scholars while dressed in their ordinary clothing, and can be acquired by teachers of either sex under similar conditions. No movements of a grotesque character are found in the system, and nothing is introduced which necessitates the hands or any part of the children's clothing coming into contact with the ground. There are no movements of a complicated character, and not one which cannot be imparted to a class of children in a few minutes, providing the exercises are taught in their progressive order. The object throughout is to produce general all-round development, and the strengthening of the various organs—particularly the heart and lungs—on which a large part of the functional activity of the body directly depends. The system admits that the constitution of a growing child requires all its nutrition for natural development, therefore muscular development is not the chief aim in view, though this is undoubtedly the result of regular and systematic physical exercise.

The exercises are arranged in a progressive form, commencing with the most simple movements, and gradually leading up to those of a more advanced nature. The exercises can be taught in different ways without any alteration—(*a*) as free movements by words of command; (*b*) by the aid of dumb-bells; (*c*) with or without dumb-bells to musical accompaniment.

Staves, wands, or bar-bells can be introduced with but slight alteration of the exercises. The exercises are arranged in the simplest manner possible, in order that they may be easily learnt by the teacher, who can readily select from them those most suitable for the scholars; all exercises are taught in two, four, or eight movements, and are so arranged that both sides of the body are equally exercised, either alternately or simultaneously.

Tables of exercises are entirely absent. The system being a simple, complete, and progressive one, the teacher can teach it without constant reference to a text-book or notes. Consequently teachers have a free hand in varying the exercises according to circumstances, *e.g.*, time of day, indoors or out, weather, etc. Monotony is therefore absent, increased interest and benefit being the result. Still, a table of progression is given, beyond which teachers should not proceed with their pupils.

The exercises are preceded by a limited amount of military drill, which is used as an auxiliary to them. By it the children are taught how to assemble, to form classes, and to move from one point to another in an orderly and methodical manner. This drill is identical with that contained in the Infantry Drill Book, but nothing is taught which is not essential to the purpose.

It is erroneous to suppose by the foregoing that the system is a military one, although *all* the exercises contained in the military system of physical training are found therein. Just the contrary is the fact, for the military system is the outcome of the experiments made in compiling *this* system. The exercises are grouped into more complicated series in the military system, while in my system we have the elements from which the military system was compiled. The latter was compiled for adults, the former was evolved for children.

This system is widely known, and has been extensively adopted throughout the country. The army authorities (on the recommendation of the Inspector of Gymnasia, Aldershot) have adopted it exclusively for all their schools at home and abroad. It is also taught to the students whilst in residence at ten training colleges for teachers, and in the whole of the schools under the London Board, and in numerous provincial schools, including those in Glasgow. There are upwards of ten thousand school teachers, male and female, teaching this system to their scholars in the United Kingdom and in the colonies at the present time.

Whatever form of physical training is adopted in elementary schools, military drill should form its basis, but nothing beyond the simple elements of that drill should be practised. Military evolutions, such as squad and company drill, are not essential when dealing with the physical training of school children of either sex.

Military drill in schools pursued day after day would in time become very monotonous and irksome to both teacher and pupils owing to want of variety, and the same remark also applies to military physical exercises, which are neither sufficiently graded nor numerous enough to meet the requirements of elementary school children, who differ widely in age, physique, etc.

During school life every effort should be made to

improve the physique of the children, thus fitting them for whatever calling they may follow in after life. This can only be accomplished by a rational system of physical exercises—one compiled exclusively for school children, and so graduated as to be adapted to the use of scholars of varying ages.

On leaving school the time will have arrived when drill in a military sense would be necessary and beneficial for boys. If every boy from fourteen to eighteen years of age were compelled to join some organisation such as the Church Lads' Brigade, the elements of military drill acquired by him during school life, and the previous physical training received, would stand him in good stead, and the most irksome and distasteful part of military drill, viz., the elements already learnt, would be dispensed with. Consequently, he could at once, or with but little preliminary preparation, take his place in a company, and proceed with the more interesting part of the training, viz., the manipulation of the rifle. He would now have something fresh to learn, whereby his interest would be aroused, and, the reasons for the additional work being explained, a keen desire would be created in him to attain proficiency. On the other hand, if military drill had been incorporated in the school curriculum, the amount undergone day after day would destroy any interest in joining a Church Lads' Brigade unless some special inducements were offered him. The training he would now receive could be augmented by vigorous and systematic physical exercises on the lines of those practised by the young soldier, and, wherever practicable, gymnastics on apparatus might with advantage be added.

In evening continuation schools, wherever facilities exist, military drill could be made a most attractive feature, for the pupils attending such schools would be of such an age as to understand the object, and appreciate the value of a training of this description.

Military training as above suggested could be made most attractive in many ways, and could be carried out in such a manner that no one could look upon it as a mild form of conscription.

It is the bounden duty of every youth of this country to make himself thoroughly efficient, should the necessity arise, to take up arms in defence of home and empire.

3935. *By Mr Fergusson.*—The system you are speaking about is what is called 'Chesterton's System,' is it not?—Yes, sir.

3936. In the London School Board there is another system taught for girls?—Well, there is a system, sir, that was originated something like fourteen or fifteen years ago and was based on the Swedish system of drill, but since then it has been modified year after year, until it is very nearly identical with mine at the present time, that is, they use dumb-bells, clubs, and wands in the teaching of these exercises to children.

3937. Do you mean in all the essential points what is known as the Swedish system is the same as yours?—No, sir, not at all. The Swedish system is not the same as mine. The Swedish system denies the use of dumb-bells, clubs, or wands, and their exercises are compiled in a different way altogether. They are compiled more from a curative point of view than from a physical point of view—that is, they have been compiled from remedial gymnastic exercises.

3938. Do you not approve of the Swedish system?—Not altogether. A great number of the exercises taught in the Swedish system you will find in my system of drill, but I endeavour, as much as I possibly can, to make the work interesting by varying it, so that it may be used with dumb-bells or wands. As I said just now, the Swedish system denies the use of such apparatus altogether.

3939. Is that the main difference, then?—That is the main difference; and again, they have tables of exercises which are used day after day and week after week, with each class of children, and there is no variation at all, whereas with my system of exercises I teach the instructors the whole system and allow them to use their own discretion in imparting these exercises, whereas with the Swedish system table of exercises, if they have a school without a hall, a corridor, for that school there will be exactly the same syllabus as for a better class school with every facility for drill. Of course that is irrational.

Time: importance of subject.

3940. We are sometimes pressed with the difficulty there is in elementary schools of finding time for all these physical exercises. Now, from what you have just read, may I say that you consider physical training of such importance that it should come first?—No, sir.

3941. And after that book-learning?—No, sir; I have often been accused of that very same thing. I have never anywhere, either by word of mouth or in anything I have written on physical training, said that physical education should be the first consideration. I consider it should be one of the most essential points in a school, undoubtedly one of the most important points, but I do not claim it should be of the first consideration.

3942. But it should be equal?—I consider more time should be devoted to that than at the present time.

3943. But if there is no time; if you have got to throw over something, some people say, 'Throw over 'physical exercise'?—Well, I do not think that would be right; I think that is one of the most essential points, as I said just now.

3944. You would prefer to give them all equal time?—If I could possibly arrange it; of course it cannot be done. As I said just now in my paper, with such a vast curriculum of work that they have in the schools—from twenty to twenty-three subjects they have in the higher grade schools under the Board—it stands to reason that physical training cannot have so much time devoted to it. They have sixty minutes a week, divided into three periods of twenty minutes each.

3945. Is that sixty minutes a week sufficient?—No, it is not. If I had my way I would not allow any school to have less than twenty minutes each session, morning and afternoon.

3946. That is forty minutes a day?—I know it cannot be done; that does not alter the facts of the case from a physical training point of view. In London, or crowded towns, where they get no exercise, except simply running about the street—nothing more than that—I consider if physical training were done thoroughly these children would derive a deal of benefit from systematic physical exercises, and I consider they should have as much as possible of it.

Definition of terms: military drill: physical exercise.

3947. Let me ask one other point. In several places throughout the paper you have read you refer to military drill and physical exercise. You say 'military 'drill is one part, physical exercise is another, games 'a third.' Then further on you say: 'military drill 'is indispensable,' and then again you say your system 'is compiled solely for the use of children'; and then you say 'that it is erroneous to suppose that the 'system is a military one.' Well, why do you call it 'military drill' if it is compiled only for children and it is not a military system?—I hardly follow.

3948. Well, what do you mean by military drill?—Yes, that is often confusing. The term 'military drill' is often confused with regard to physical training. Military drill consists, that is, the word 'drill' consists, of formations, turnings, marching, etc., so as to enable men to arrive at one position from another in a methodical way and in the least space of time. That is military drill; that is what military drill is taught to men for; it is simply the marshalling of a number of men and to enable them to move from point to point in a methodical way in a given time.

3949. That is drill?—That is drill. Now the physical exercise I am speaking of is simply exercise for the physique. Military drill is not taught to a recruit to improve his physique at all.

3950. I quite understand that, but when this is a form of drill that is specially constructed for children, why not call it 'drill' or school drill; why do you insist on calling it 'military drill'?—I do not call it 'military drill'; I say the drill itself, that is the

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preliminary part of the drill, the formations are essential undoubtedly, and that should be taught strictly on military lines, but the physical exercises themselves are distinct from the drill.

'Militarism': objections.

3953. Quite so; I quite understand that, but did you ever meet with any objections raised to teaching boys 'military drill,' on the ground that you were trying to make them soldiers?—Oh, yes, sir, I have had a lot of that. I have had a very painful experience of that on the London Board. My first instructions on coming to the London Board were these: I was told distinctly I was on no account to teach military drill, pure and simple, as laid down in the 'military red-'book.'

3954. If these were your instructions, why do you insist on calling it 'military drill'?

3955. Why not say 'drill'?—Well, we will call it drill, if you like. It is based on military lines.

3956. Do you think it would get rid of any of these objections?—I beg your pardon. I see now what you mean. In my book I do not call it 'military drill'; I call it 'drill and physical exercises,' but the drill that I teach is solely military drill, but I leave out the word 'military.' It is advisable in many instances to do so. I may tell you distinctly that the drill I teach is purely and simply military drill, and the physical exercises that I am teaching now are my own composition. I was assisted by three men in doing it. That work is simply taught on military lines—purely and simply military lines; the essential drill is pure and simple English military drill.

Music.

3957. Do you approve of music?—I do, after the children have learned the exercises in a thorough manner, not before. In many cases you will see children placed in front of a teacher, and exercises performed at once by the aid of music. Some-one will play a piano, and these children will place themselves in different positions in certain rhythm according to that music, which I do not approve of. I say, teach the children by all means to do the exercises in a thorough manner. First, see that each of the exercises is performed as accurately as you possibly can, and then afterwards, to vary the monotony, introduce the music, but only occasionally.

3958. You will not get the same smartness?—You will not get the same precision and smartness when music is introduced, but then again you can ensure a certain amount of benefit being derived from the music by introducing dumb-bells with these exercises; then they have a certain amount of weight which they must carry.

Time: frequency, not duration.

3959. I see in the second paragraph dealing with the benefits you say, 'Whenever a few minutes are 'devoted to physical exercises during the middle of a 'session, not only does the brain become rested but 'the circulation of the blood is increased,' etc. Have not the London School Board changed their system lately? Instead of giving a few minutes at short intervals they only have one twenty minutes' course, do they not?—They have three lessons a week of twenty minutes' duration.

3960. Do you prefer that to having five minutes or so more frequently?—That would be according to circumstances. If you take a school, say, three storeys high with a hall on the top, we will say, a teacher can bring his children out in that hall, and he could do, say, if he occupied the hall for ten minutes from the time he left the classroom until he got back, five minutes' systematic physical exercise in that time in the hall; but suppose he had to take these children down from the third storey high to the schoolyard, that alters the case again.

3961. That was explained to us, but I am putting it as a matter for the good of the child?—I say frequency and not duration should be the keynote of the whole matter.

Clothing: boots.

3962. You say that using ordinary clothing is one of the advantages of your system; have you ever had any trouble with the children's boots for doing the tip-toe exercises and such like?—Not at all, not any trouble.

3963. You do not find that?—No; I have never seen any trouble at all.

3964. You have tip-toe exercises?—Raising the heel, rising on the fore part of the foot.

3965. But you do not find that the ordinary child's boot prevents it getting the full benefit from that exercise?—Well, a boy or girl badly shod naturally, of course, would not feel the same benefit, but I do not suppose you would get the same benefit from the work as you would from a child fairly well clad. Then, again, a child with bad boots, if they are poor boots and thin, yet it stands to reason you would get the action of the foot better than a boy with hobnailed boots on.

3966. I understand that, but if they have hobnailed boots on it would not be good, I mean it would be stiff?—Yes, there would be very little foot movement; all the work would be in the calf of the leg, or nearly so.

Physical training: experience: compilation of system.

3967. *By Professor Ogston.*—Would you tell us in a few words, Mr Chesterton, how you came to devote yourself to this subject of physical training?—I was on the army gymnastic staff in Aldershot for a period of eighteen years teaching gymnastics from day to day, every day, and for a period of twelve years my duties were to teach officers' children from four o'clock till half-past five every evening.

3968. You were a soldier?—I was on the gymnastic staff in Aldershot. I was chief instructor. I left there and came under the London School Board.

3969. That was your original occupation, a soldier?—No; I joined the service when I was seventeen years of age.

3970. And you compiled this system under very careful advice, I suppose?—Under very careful advice indeed, and it took me something like five years to get all the data together with regard to it.

3971. You devoted a good deal of time to studying the subject?—My whole time was devoted to the subject; all my duties in the service consisted of nothing else but gymnastics. I had no other duty to perform.

3972. And you thought a great deal about it?—Most decidedly.

3973. You thought over the subject?—Yes.

3974. And read?—Yes.

3975. And visited other places?—Yes.

3976. So that you knew the respective merits of most of the systems before you compiled your own?—Quite so; both at home and abroad.

3977. What medical men assisted you in compiling your information?—Dr Reynolds, V.C., and Surgeon-Major Dean.

3978. You had three medical men?—Dr Reynolds, I say, was the first one, and Dr Roberts, who wrote the standard work on Anthropometry; perhaps you have seen the work, it is the standard work on the measurements, he assisted me, and Dr Savill; 70 Upper Berkeley Street, in London.

Medical principles.

3979. They implanted into your system what you consider proper medical principles?—Yes.

3980. You claim that as one great merit?—I claim that, and it is based more on anatomical lines than on physiological lines. That is, the purpose to introduce exercise as nearly as possible to represent play for children more than actual physiological exercises.

Objects aimed at: [illegible] exercises [illegible] ment.

3981. The principles on which you go in training children with physical exercise, could you in a brief sentence say what they are, or what it is; what do you aim at?—I aim as much as possible to develop the children in the limited time that we have had at our disposal; in that sense we have not had long, of course. Well, we aim at giving them exercises for all parts of the body, so as to ensure that every child gets a certain amount of work. We do not aim at that alone; the exercises are compiled to suit the peculiar classes, as it were, to suit the requirements of a large class irrespective of age or physique.

3982. Up to what point do you strive to educate them; what do you take as the goal of your education; do you understand me?—I do not quite follow you there.

3983. Well, if you went on with physical education indefinitely, you could make a man an acrobat or an athlete, or develop him in regard to some particular exercise; it is not your object to do that?—Certainly not.

3984. Then where do you stop; what do you aim at?—I aim at building them up as much as we possibly can, to bring them up as useful citizens, and as healthy fathers and mothers of a future generation. That is my view, not to bring them up as athletes.

3985. To bring the body into perfect physical condition, and then stop?—That is my object as far as we possibly can; remember we lose them at fourteen.

3986. And then stop?—We have to stop then.

3987. But you consider that you should stop when you have got the body brought up to a physical perfection?—I do not say that we could get them at physical perfection at fourteen years of age, it is as far as we can get with them at that age; we cannot go much further with them. Then the evening continuation schools should carry that on and provide private gymnasia.

3988. You have taken into account the medical peculiarities of children who are growing, of course, the tenderness and slenderness of the infants, the change of child into man or woman, and you have adapted your system to all those?—To those requirements and how it has been gradually graded from the youngest child up to the age of fourteen or fifteen years of age, and not beyond that.

3989. And in your system you claim that there are exercises which will suit the tender child, the adolescent boy or girl and the youth who is a little older?—Well, not quite that, no, I aim at working up to the age of fourteen, not to the youth after adolescence at all.

3990. Do you include gymnastics?—No, I do not interfere with the gymnastics at all. When you say gymnastics, do you mean gymnastics on apparatus?

3991. On apparatus?—No.

3992. Could you tell the Commission any precautions that your observation or experience has suggested as needful to be observed in regard to infants or children of puberty?—Precautions in what way?

3993. In case of their injuring themselves?—There is no exercise that I teach that they can possibly injure themselves with.

3994. You claim that your system is incapable of developing a rupture?—Oh! not at all, I do not interfere in any way with medical gymnastics, and the system of drill I am teaching has nothing at all to do with infants. I do not attempt to teach children, until after they have come from the infant school.

3995. Do you consider that anything special is required in regard to girls?—I think not. I have had experience in teaching both male and female teachers, and also in girls' schools, and I think up to the age of fourteen years there is no need for any difference in the system between boys and girls. I should think, of course, afterwards there should be.

3996. In the various systems of physical training that you have seen or studied, do you consider that there are any that are bad?—Well, I would not say bad, exactly bad, but some that I think would be simply a waste of time, and not beneficial.

3997. Could you say any points in which any of them are either bad or wasteful?—The very point that I was asked just now with regard to musical drill. I consider that in many instances, where teachers devote considerable time to musical drill—well, simple exercises of their own composition—there is no continuity in the exercises; there has been no gradual building up of these exercises, you may say. Perhaps the first exercise they will take with regard to children will be a violent one, and the next one will be one of the most simple character, simply because it fits in with their music. In a case like that I do not consider the children would be deriving much benefit from it. Those are all called systems; we have a plethora of systems.

3998. In training a child, both mentally and bodily, what proportion of time would you give to the two parts—mental training and bodily training?—I should like to see twenty minutes, both morning and afternoon session, devoted to physical exercises.

3999. Forty minutes out of five hours?—Forty minutes out of five hours; yes.

Medical inspection.

4000. Do you think that medical inspection of children who are being adequately trained physically is a necessity?—Most essential, sir, and I should like to see it in every school. Forty minutes of physical training, supervised by medical men who have made the matter a study, or would make it a study, and would see the results of the work. When I started under the London Board, I particularly wished that to be done. I wished measurements to be taken, and I was forbidden to take measurements, seeing probably children's parents would object and cause a disturbance. I have taken measurements.

Defects.

4001. Have you seen much of ailments that impede physical training, such as flat feet, knock-knee, curved spine, etc.?—Well, I have seen a number of cases in schools, and in cases like that the children are not allowed to take part in any of the exercises.

4002. What proportion of the children you have at present charge of could you say suffer from any such disability, even to a slight degree?—Well, very, very few; indeed, it is a rare thing to find children in schools who are so physically incapacitated to prevent them taking part in some of the exercises. Of course, if a child is deformed in the foot, we will say, or in the leg, we still give them exercises for the upper limbs; again, if a boy has lost an arm we still let him march the same as the remainder, though he could not take part in the exercises for the arm.

4003. Forgive me asking you to make your answers pretty short; we naturally would understand that. Has your training rendered you capable of detecting a knock-knee or a flat foot, or such deformity, with the eye?—Oh, yes, sir.

Manners and morals.

4004. Do you consider the effect of the system that you practise upon the child's manners is a good one?—I do.

4005. Can you say anything regarding its effect on their morals?—Well, I cannot say so myself personally, but I hear from the teachers that it has a considerable effect upon the children.

System.

4006. Then would you tell us now shortly what your system is?—I am afraid I could not tell you shortly, sir.

4007. Perhaps I might make it possible for you to do so in this way. We know the system of army drill; we know the system of gymnastics, of exercises with apparatus, and of Swedish drill; do you adopt part of all those?—I do.

4008. You adopt whatever is best out of all those?—I have adopted whatever is best out of all those, and it has all been compiled in a progressive course, working from the head downwards.

4009. A well-considered course; but you say there is nothing special that you claim as your own?—I do not claim any originality as regards the exercises; the compilation of the exercises I claim is original.

4010. It is a selection of the best?—It is a selection of the best, undoubtedly.

4011. What about for infants six to eight?—I have nothing to do with infants at all. The infants under the London Board do simple exercises, something identical to the simple exercises that I teach to the older children—that is, the boys and girls in the ordinary schools.

Ages of children taught, progressive system.

4012. What age are the children that you have taught?—The youngest ones will be something between seven and eight years of age on coming from the infant schools into the boys' or girls' schools.

4013. How do you begin those young children?—By the simplest movements imaginable. They are formed up in classes out in the yards, they are numbered ones and twos, fours and sixes, rights and lefts, according to the capacity of the child. We teach them how to open a class in a practical way into four lines, so you can see what each class is

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doing, and the children can see themselves and can see the teacher. We then take military drill pure and simple—that is, the marching at the intervals and the turnings, the simplest exercises in each group, head movements, simple arm movements, simple body movements, simple leg movements, after which marching is introduced.

4014. Then for older children about twelve to fourteen?—Yes, we base their work on the elements already taught. Any exercise taught in my system, that exercise is useful again directly they go to a higher class; the exercise they have already learned is a help to them, they simply add, as it were.

4015. Briefly?—My system of exercise is compiled the same as the alphabet, a, b, c, and so on, and when you have taught those letters you can put the a and b together, and the b and c together, and the c and d, and so on. After that you can put three letters together, afterwards four letters, and so on. It is built up in that manner.

4016. *By the Chairman.*—Strictly progressive?—It is as briefly as I can give it you. It would take an hour to show you what my work is like; you understand that.

4017. *By Professor Ogston.*—Do you, with the children of fourteen, add to what you have already taught the younger children, exercises with the bars?—Decidedly. These exercises, as I said just now, are gradually built up until the older scholars can do the whole of the work. The teacher has a free hand. If he says, 'My class is slack; it has got a little bit 'slow in the elementary movements,' he can go back over the most elementary part, and then add that again to the heavier part of the work as you may say; the advanced part of the work, with the elder boys and also the girls can be augmented without any alteration whatever by the use of dumb-bells, or wands, or staves some people call them.

Gymnastics.

4018. And when do gymnastics come into your system?—We do not introduce gymnastics at all. There are no gymnastics done whatever in the schools. I got the Board to agree with my suggestion that half a dozen schools should have a horizontal bar and a set of parallels, which I designed myself to fix up in the halls. The children could fix them up themselves. They were of very simple construction, and since then the Board of Education has said they do not consider gymnastics suitable for children under fourteen years of age, and the Board has stopped that.

4019. Do you include defence—the use of the rifle, boxing, fencing?—Nothing of that kind.

Swimming.

4020. Do you include swimming?—Yes; we have made a very strong point of swimming.

4021. Tell me where swimming comes in?—We do that with the elder children; it is called part of the physical exercise time. With sixty minutes a week, a teacher takes his class at 11 o'clock to go to the baths and he does not come back till 12; although these boys have only been twenty minutes in the bath it is called sixty minutes' physical exercise, and unfortunately they get no more.

4022. Do you teach swimming; any particular system or any particular exercise?—I teach swimming as laid down in my manual. The swimming is taught first of all on land. The boys and girls are exercised and taught on land in squads, then taken to the baths; the same exercises taught on the side of the baths, and put into practice in the water. These exercises you will see enumerated in my book.

4023. What are the tables of exercises to which you refer? You say in your evidence tables of exercises are entirely absent?—That is what I was speaking of just now, in answer to one of the gentlemen who asked me about tables. I was asked with regard to Swedish drill, in which they have tables of exercises supposed to be suitable for each class in a school. I do not agree with that idea at all, because I know no table can be suitable for any two classes of schools.

4024. What do you refer to in speaking of a table of progression in your own system, which is given, beyond which teachers should not proceed with their pupils?—At the end of my manual you will find a table setting forth Standard I. a certain amount of work; Standard II. a certain amount, plus what was done in Standard I.; Standard III., a certain amount of work, plus what was done in Standard II, and so on. That is the table of progression, beyond which the teacher must not go with his class.

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4025. *By Mr Shaw Stewart.*—You have told us that you have had some experience of objections to the spirit of militarism?—Yes, sir.

Military should be taught after boys are fourteen.

4026. Well, you can easily understand that this Commission cannot ignore that objection to the spirit of militarism. We shall have to consider that, of course. I see here you give your opinion that on leaving school the time will have arrived when drill, in the military sense, will be necessary and beneficial for boys?—Undoubtedly.

4027. There you very clearly lay down where you think military drill might usefully come in, after boys have left school?—Yes, sir.

4028. Now do you think that objection to the idea of militarism would be lessened if, in any recommendation we made as to drill in schools, we called it school drill instead of military drill?—My experience— I must explain at a little length; I cannot help it.

'School' instead 'military' drill.

4029. I only want your opinion on that one definition, school drill, as a way out of the difficulty?—My opinion is this: first of all, I tell you I am heartily in love with military drill. I consider that every boy of this country should be compelled to learn military drill, that is, after fourteen years of age. It is no use before that age; but if you wish to introduce a system of physical exercises, my experience with the public in London, and also with our Board members, is this, that you may teach as much drill as you like, provided you do not call it military drill, but if you make use of the word 'military' you are stopped at once. Now, in the drill I am teaching now, I have, as I said just now, as much military drill as is given to a recruit before he gets a rifle put into his hands, and I think that is quite enough for any boy to learn, and I am positive, if I were to introduce anything under the Board, I mean twice as much again, if I did not use the word 'military,' there is not a person would say no to me; but directly I make use of the word 'military,' I am blocked at once. That is my experience.

4030. May I suggest that you should use the word 'school' drill?—It is called drill and physical exercises.

Music.

4031. You do not approve of music accompanying physical exercises?—Not in their elementary stage, not until they have become advanced exercises for the elder pupils, not with the younger ones, except for little children for their marching; undoubtedly it aids them considerably and entertains them.

4032. On the point only of physical exercise music is introduced to accompany them to avoid monotony?—Quite right, after the exercises have become familiar.

4033. Do you claim that the variety that you introduce into your exercises does away with the monotony and is a sufficient substitute for music?—It is for the lower classes but not for the older ones. When we have got to a certain extent of work you see they have to do a lot of exercises, judging their time with the elementary work, which is all done by the teachers' word of command; and by the repetition of words of command when the children become familiar with these exercises; then you repeat them time after time, and the more they are repeated the more benefit they derive from these exercises. It is there the music comes in, as it saves the teachers' voices and it is more entertaining for the children.

4034. And these exercises you prefer to take without music?—The elementary work, the actual foundation from whence the exercises are derived, the simpler movements. It is the combination of exercises where you introduce the music.

Boots.

4035. One question on the subject of boots. You say that you have not found it advisable to remove boots for the feet exercises; you have not found that the boots get in the way of tiptoe exercises?—No, not at all.

4036. I suppose the boots that you would see on children in a London school are very much lighter and thinner than the boots that you would generally find in a Scotch school?—I should think so; I saw them in Glasgow myself some time ago; I noticed the very same thing that you are speaking of.

4037. Would you not say that the thick boots that you saw in Glasgow interfere with tiptoe exercise?—I should think not, sir. I do not think they would be quite so beneficial as they would be with a lighter boot on, but I do not think you could go beyond that with it.

4038. You do not lay great stress on that?—Not at all.

4039. Yet we have had skilled witnesses who say it is very essential that boots should be removed?—I do not think that; you have no time to do it. If I had to compile a system of physical exercises where they could be suitably dressed in gymnastic costume, I should work on different lines.

4040. *By Sir Thomas Coats.*—With regard to physical drill, do you consider it essential to the health of the children in your London Board Schools that they get a certain amount of physical drill?—Decidedly. From their cramped position in classrooms it is relaxation for them—both for them and the teacher.

4041. You consider it absolutely necessary that they should get physical drill?—I do.

4042. Then you would insist on getting an adequate amount of time on the time-table for physical drill?—Undoubtedly.

4043. There is one point I did not quite understand in your statement: 'The system admits that the constitution of a growing child requires all its nutrition 'for natural development, therefore muscular development is not the chief aim in view, though this is 'undoubtedly the result of regular and systematic 'physical exercise.' Do you come across a number of underfed children in the London Board Schools?—A great number.

4044. Are they so far underfed as to interfere with the beneficial carrying out of physical drill?—Well, not quite, but in the case of those children we do not give them as much exercise as we would to a class of children who are well fed and well clothed. That is in the schools that you are speaking of. Now, where they are not well fed and well clothed, we do not give them such violent exercises as they would get in a better class of school.

4045. Then are these children we talk of confined to special schools or special districts?—It is generally the case.

4046. You do not find them mixed through in all schools?—You will find in better-class schools one or two children badly clothed and badly fed, but as a rule the poorer children are grouped together.

4047. Are any steps taken to see that these children who are apparently underfed get better feeding or are provided for?—Oh, yes; we have meal funds in connection with the Board with regard to the underfed children. That is all done specially by a special subcommittee of the Board, and the children are fed during the winter.

4048. But are they fed by the Board; do the Board provide money for feeding them?—No; it is got from outside.

4049. Then you talk of children after having left school; where you would give them physical drill or physical training only, getting instruction in military drill so that they might fit themselves for taking an active part in the defence of their country; how could you get these boys to attend these classes?—By making them entertaining in the shape of gymnastics. I should like to have the time to explain it to you; I think I could, too.

4050. You think that would be sufficiently attractive to get a large proportion?—I am positive it would, sir; positive, if some one were allowed a free hand to do it.

4051. Then, of course, you would give systematic gymnastic training?—Decidedly, to make it entertaining, and then you could do your military drill without any obstacle whatever, and the children would come, and gladly come.

Continuation Classes.

4052. Would you suggest that this should be carried on with other evening classes, or would you have special classes for gymnastics only. We have had witnesses here who suggested that in the continuation evening classes, where other subjects are taught, physical drill or physical training should be included in the teaching given?—Certainly it should.

4053. Would you suggest that these gymnastic classes which you approve of should be separate classes altogether, especially for gymnastics, or would you have them added on to a course of evening classes?—I see what you mean. I would make them special classes, and under conditions that if they came for an hour, half of that time should be devoted to gymnastics and the other half to physical training. On no consideration should a child come for half of that; if he comes for gymnastics he should have his physical training on military lines as well as his gymnastics.

4054. You scarcely see my point, which is whether you would approve of a bond between the mind and the body?—Decidedly, you mean to go to the evening schools for educational purposes as well as gymnastics.

4055. Exactly?—Decidedly.

Floor space.

4056. In the Board Schools do you find room within the schools themselves for giving your system of drill?—Ample in every school, either indoors or out. Of course in some schools we have no halls, therefore it has to be done in the open air when the weather is favourable, and in all the school yards with the sheds it can be given in those sheds in inclement weather, but we forbid the work being done in the classrooms.

4057. So you have no difficulty in the schools under the London School Board in getting sufficient room?—No difficulty; each teacher takes his work all the way through.

4058. *By the Chairman.*—What was your regiment when you enlisted?—In the second battalion the 14th Regiment. I was there only eighteen months. From there I went on to the gymnastic staff.

4059. Were you a non-commissioned officer?—A sergeant; I was a sergeant at the end of the eighteen months.

4060. What year would that be?—In 1870; I joined the service in 1868.

4061. And in eighteen months you were a sergeant?—Yes.

4062. When were you transferred to the gymnasium at Aldershot?—In 1870.

4063. As a lance-sergeant?—As a full sergeant.

4064. What was the reason of your being sent there; I mean was it on account of being known to be proficient?—You ask me the question; I must give it to you, my lord; decidedly. I was sent, the same as every young soldier, to go through a course in Chatham at the gymnasium, and I proved myself very adept in gymnastics.

4065. Then they called for an instructor from Aldershot, and therefore you were sent?—General Hammersley came to make his visit of the place, and selected me to go to Aldershot.

4066. I rather wanted to see why it was you were such a short while at your regiment, and such a very long time at Aldershot; it is not usual?—It is a very exceptional case.

4067. It is very complimentary to you?—It is a very exceptional case.

4068. Then during the eighteen months, I suppose you did a certain amount of drill as it was done then?—Yes.

Manual.

4069. In your manual—I have just glanced through it—I see that you stick pretty closely to the squad drill and early drill instruction as laid down in the drill book?—Yes, my lord.

4070. Are you put out, like so many of us have been, by the changes in drill, that is to say, when a new manual of drill comes out, which is not infrequent, I am sorry to say, does it compel you to alter your

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system?—No, it does not interfere with my work; it is very simple.

4071. You know at the present moment there is a scheme of drill which is so revolutionary, if I may call it, as to actually alter the turnings?—Quite right. I introduced these turnings in my book long before the service would adopt it. I suggested this five years before I left the service. They are in my book, that is thirteen years old; that is my suggestion. That is the book that is adopted for the army schools which is an abridgment of my work. This is the manual I go by; in that you will find the swimming drill as well as the other work. That is the military book, which is an abridgment of mine. (*Books handed in.*)

4072. I open this casually and I see standing at ease, you know that is going to be changed?—Yes, this also was my suggestion.

4073. But not here?—You will see it there, and illustrated.

4074. Slightly forward six inches?—I know it is, but if you will lend me the book I will show you the new. The last paragraph there, my lord (*indicating*).

4075. Yes?—So that, therefore, I am before the service, my lord; those were all my suggestions.

4076. You seem to have had some admirers?—I am pleased to say I have.

4077. Who flatter you by imitating you. Now, one question, what is your opinion about muscle being formed in children?—I do not look for muscular development at all; I get muscular development undoubtedly, but I do not aim at that alone.

4078. But is it developed; I want to know when you think it is developed in children, that is to say, children under the age of fourteen?—Under the age of fourteen there is a gradual development in the children, and I can give you statistics to prove that in regard to measurements I have taken.

Grading of classes.

4079. In the schools that you are responsible for, are your children taught by educational classes or by their individual sizes?—By their educational classes.

4080. That is to say, some are tall, some are short, and so on?—Decidedly.

4081. That, of course, is for general convenience that they come in their ordinary educational classes?—Decidedly.

4082. Though if you were to take the whole lot as a lot of boys, you would probably pick your big ones aside?—Of course I would, but you cannot do that in the time.

4083. I think you have answered Mr Shaw Stewart, that in certain exercises you approved of music?—Yes.

Singing.

4084. Do you approve of singing?—No, not with the exercises.

4085. I notice you have got words to your songs in your book?—I introduce the singing in this way; the second and fourth lines of children will sing; the first and third lines will do the exercise, the second and fourth lines will sing for them and then they will reverse it, or I have a special class of children, half a dozen or so, who will sing for the remainder.

4086. Do you approve of singing in itself as a physical exercise?—Decidedly; and I allow the children in the exercise to shout, count the numbers audibly; by doing so they do not hold their breath. It is an unconscious respiratory movement; they count the numbers audibly; it is rhythm; it is music in itself, and saves the teacher's voice.

Uniform system desirable.

4087. *By Mr Alston.*—The ground has been so well covered that there seems only one point left. Without saying a word about the merits of your book, we gather that you would approve of a uniform system of instruction?—Undoubtedly.

4088. In all schools?—Decidedly.

4089. And that such a system could be built up medically and professionally?—Decidedly.

4090. Would you allow the teachers to exercise any discretion as to varying the system, or would you prefer that it should be carried on as you call it from a, b, onwards?—Yes, it must be so, otherwise you would never get uniformity in the schools, and where a teacher handed over his class to the other, that teacher could not go on with the work.

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4091. It is a building up system?—It must be to have uniformity in schools.

4092. And you would advocate that uniformity?—Undoubtedly, that is the first consideration.

4093. Apart from your own book, a uniform system must be adopted?—It must be, and a progressive course as well.

4094. There are two different systems and methods of instructing boys and girls in London?—There are two different systems.

4095. Then there are really two systems in London, one for instructing boys and one for instructing girls in physical training?—Yes.

4096. Do you approve of there being two?—No.

4097. You think one would be better for both sexes?—I think one would be far better.

4098. That there is nothing that a girl requires in physical exercise different from a boy?—Not till after fourteen years of age.

Militar

4099. The other point is the emphasis you laid on military drill, which has been brought out by several questions, particularly by Mr Fergusson. I fancy you have been biassed in favour of military drill from having been in the army, and having been so long an instructor at Aldershot?—No; not that alone. I have often been accused of the contrary, because I do not have so much military drill as some people wish to go in for. I do not hold with a schoolboy having a wooden gun, for instance, and I do not hold with company drill for them, because it is simply useless. A child sees no value in it, and he gets no physical benefit from it.

4100. That is for the senior boy of school age?—Yes.

4101. You defy public opinion when you have done with him in the school?—Catch him then, by all means, and give him some military drill.

4102. In fact you would compel him to join the Church Lads' Brigade, or some other organisation?—I would, sir, if I had my will.

4103. That is military drill?—And teach him to handle a rifle; a good moral training as well as a physical one.

Eve

4104. *By Mr Fergusson.*—There was one expression you used, if I took it down right, in speaking of gymnastics in evening schools, I want to ask you about. You very strongly advocated gymnastics, and you added if one was allowed a free hand. What do you mean by that?—When you were speaking of putting gymnastics and military drill together in the evening schools; I think that was it.

sch gym

4105. You said, if some one were allowed a free hand?—I say if the man who organised the work were allowed to do it, that is to introduce the military drill with the gymnastics, he could make a success of it, but I say there is so much opposition to it, that is what I am speaking of.

4106. From whom?—From people in authority.

4107. What do you consider is a satisfactory class for teaching; what number of children?—I would not exceed 40.

Cl

4108. You teach them in the open shed outside. What space is large enough for teaching 40 children under your system?—Well, I should say 40 children could be easily drilled in a room say half as large again as this. There would be ample room then both for their marching and for their physical exercise; 40 children could be accommodated in this room at physical exercises.

4109. A room half as large again as this one would be ample?—A room half as large again as this would be ample for physical exercises, and marching as well. That is, you would put them in file and march them round each angle of the room. You are speaking in respect of space.

4110. What shall we call the size of this room—25 by 18?—You could put 40 children in this room and do physical exercises. I do not say the advanced exercises, but you could actually do a course of physical exercises in this room.

4111. *By Professor Ogston.*—You have noted measurements of the physical condition of children?—I have.

4112. Of various ages?—Yes.

4113. And for a considerable period in the same child?—No, we have not had the opportunity.

4114. Measurements of boys?—Boys only.

4115. Do your measurements permit of your comparing the condition of one child at one age with the same child at another age?—Yes.

4116. So that from them you could show improvement?—Yes.

4117. Would they be such that we could compare them with the standard of London children?—These will be London children that I am speaking of.

4118. Any other children besides London children?—Yes.

4119. Country children?—Yes.

4120. What measurements did you take?—Height, muscle, chest measurement—height and chest measurements only in the case of the ordinary day school children; but on board the training ship *Shaftesbury* at Gray's we have measured the boys all over. I can show you the improvements there, but in our elementary schools I have taken nothing but height and chest measurement.

4121. But in the others you have height, weight, chest girth, and perhaps muscle girth?—Forearm, upper-arm, biceps, calf, thigh, and so on.

4122. Any head measurements at all?—No.

4123. Could you supply us with those?—Yes.

4124. Could you supply us with them very fully. We have a great want of statistics on the point, therefore what I mean is could you give us them pretty fully?—Well, I can give you measurements that have been taken with our boys on board the *Shaftesbury*. I can give you the results of measurements taken at a Union School near Aldershot, where my system of physical exercises has been threshed out, and I can give you the measurements of children in the London board schools, and the development that has been obtained through different years. It would be very brief. I have not got their length measurements, but if you will glance over that it will give you some idea of what I mean. These are measurements as they were taken, that is the second measurement; one paper compares with the other one. (*Figures put in.*)

4125. Those are all you have?—No. I brought those in case the question were asked me to-day.

4126. They are typical of what you have?—Yes. I have more at home. These are simply what I have run out to-day roughly, and if you glance through that it will give you a good idea.

4127. Those are not reduced to averages, I see; they are individuals?—That set corresponds with the one the Chairman has; one is before the course, the other is after.

4128. Can you spare these?—I do not think you will be able to wade through them. If you would like the whole of those statistics, I will work them out for you with pleasure.

4129. You said that both had been taken—the measurements—by you?—Yes, sir.

4130. Was there any rational objection that you ever heard?—Well, the only objection was I was told by the Chairman of my Committee, when I first started, that I must not take any measurements, as probably the children's parents would object to it, therefore I was on no account to do it, unless I had his permission. I never got his permission to do it.

4131. Do you suppose the children's parents would object to it?—As a parent, I should like my children measured, to see what progress they did make. *Mr T. Chesterton.* 15 May '02.

4132. Can you conceive any objection to it?—I do not see why there should be any objection.

4133. *By Mr Fergusson.*—Do you make allowances for the boy being older and his natural growth?—I show there the height, weight and chest measurement he should be at a certain age, and then I give you what he has arrived at after physical training, and then what he should be according to the same rule. In the first place, I give both those. I make allowance for the time.

4134. *By Sir Henry Craik.*—I observe that over a course of years there has been an increase in the average height?—There is, sir, a very marked increase.

4135. Not quite uniform; it is average?—No; if you take the last three years, there has been a vast increase compared with the first three years.

4136. In this first table you have the ages of children from eight to fourteen, average children, I presume?—Average children.

4137. In the second table they are specially-selected football and cricket champion teams?—Yes, from one district in London I took those.

4138. Then the increase in the number of average children is much more marked, is it not, than the increase in the number of those selected?—Quite right, sir.

4139. If that is true, then, it would show that the physical exercises were working up the poorer specimens?—Quite right; in the aggregate they get the better results from it.

4140. *By the Chairman.*—That is rather what we would like to get from you generally, if it is always a favourable increase?—I can give you the whole of those statistics. I can send them on to you with pleasure.

4141. But I mean would you say, as a rule, that the statistics prove that there is always an increased measurement as the result of physical exercises?—Yes, my lord. Physical exercises: result of statistics.

4142. And never a contrary result?—No, my lord.

4143. *By Sir Henry Craik.*—You quote Dr Roberts as showing that the average height of the boys in public schools is above the height of ordinary children by a certain amount.—Yes.

4144. You, of course, are dealing rather with a class of children not so well developed?—The general public, we will say.

4145. Not so well developed physically?—No.

4146. Comparing the results of your measurements, did you find that the improvement was more marked in the training ships like the *Shaftesbury* or in the ordinary schools?—On the training ship, because they get considerably more physical training.

4147. And better feeding, perhaps?—Better feeding, and more regular feeding.

4148. So that your statistics have rather shown that that regular feeding and regular work did develop the boys more quickly than the less physical work and the worse feeding?—Quite right, sir.

4149. *By the Chairman.*—Are these statistics as you would like them handed in?—I would rather make them more readable if you would allow me to submit them to you.

4150. We should be very grateful to you if you would?—I shall make them more readable. I put them on a paper to read to you in case I was asked.

4151. It is very important to know the date when those were taken?—I have the dates. I will put them more fully for you, and send them on with pleasure.

4152. If you can do that we shall be very much obliged to you?—I shall hand in the whole data.*

The witness withdrew.

Mr James Malloch, examined. *Mr J. Malloch.*

4153. *By the Chairman.*—You are the headmaster of Blackness School, Dundee, and Lecturer on Education, University College, Dundee?—Yes, my lord.

4154. You have your notes; will you please go through them?—I have treated the question:

I. *Generally.*—There is no systematic organisation or scheme of instruction in physical training connected with the Dundee schools. During the past fifteen years, however, endeavours have been made to promote various forms of physical education. This has been due Physical training in Dundee: no system.

* *See* Vol. I. Appendix II.

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more to the individual initiative of several of the headmasters than the result of specific injunctions of the School Board. The work done has consisted of spasmodic attempts to foster the interest in school life and to relieve and brighten the tedium of the ordinary work by easy drill exercises. But these have not been deliberately adopted with a view to any practical application to the requirements of life. The School Board has readily and generously provided simple apparatus whenever asked, so that there is now a fairly general plan in operation of teaching those easy exercises to the younger pupils. This has become somewhat more thorough, and certainly more extensive, since the Code required that provision be made for 'adequate physical 'exercise according to an approved scheme,' Art. 19, A. 1, 4 (*a*).

Difficulties. These schemes, presented to His Majesty's Inspector for the district, are entirely individual, without any relation to those of other schools, and are limited by reason of—:

1st. The qualifications of the existing school staff.

2nd. The nature of the school buildings to accommodate the work.

3rd. The fact that there has been no recognised scheme of training or any standard by which this instruction might be judged.

Blackness School: scheme. II. *Particularly.*—In Blackness School (accommodation 1242 pupils) each child receives one hour's specific instruction per week in this subject.

Infant division, three periods of twenty minutes.
Junior „ two „ thirty „
Senior „ „ „ „ „

The detailed scheme is in the hands of Sir Thomas Thornton, LL.D., Clerk to the Board. I think that generally this is the amount of time devoted to this form of instruction in most of the board schools of Dundee.

The School Board—

A. Has been content with satisfying itself that the necessary 'adequate provision' demanded by the Code appears in the school scheme of work and in the timetable.

B. Has provided all the apparatus desired by the headmaster to carry out his approved scheme.

C. Has recommended all its teachers who have no apparent qualifications to teach this subject to attend either Saturday or evening classes in the Dundee Public Gymnasium.

D. Has given no instructions to its teachers as to the ends to be aimed at or the methods to be employed.

Instruction: popular. On the whole, the work done in Dundee, considered as preparatory work, has been undoubtedly successful. As a branch of instruction it is popular with both teacher and pupil. It has aroused an earnest desire for more systematic training on a thoroughly organised plan. It is also held universally amongst the teachers that we have advanced beyond the days when such instruction can be given only as an interesting interlude in the school curriculum, or for any purposes other than the physical, moral, and intellectual development of the pupils. In my experience physical training has proved beneficial—

Physical training: beneficial: reasons.

1. In the formation of habits of order, precision, and punctuality.

2. In proving how easily and simply 'school discipline' is maintained amongst children who are regularly accustomed to engage in carefully-devised and interesting physical exercises.

3. Because of its undoubted moral effect in promoting self-control and true obedience.

4. As a relief to purely intellectual work in school, and a recognition of the fact that mental training should, as far as possible, correspond with physical development.

Suggestions. I would suggest—

1. That during school life (5 to 14 years of age) any scheme to be devised might advisedly be drawn on the following lines:—

(*a*) *Infant School* (5 to 7 years of age).—Exercises in simple limb movements arising out of kindergarten play. These exercises should be assisted by every possible device of pretty and attractive apparatus.

(*b*) *Junior School* (7 to 10 years of age).—A beginning be made in mass exercises—simple company drill, various forms of marching, and exercises designed to develop the muscles of the arms, the legs, and the trunk.

(*c*) *Senior School* (10 to 14 years of age).—Complete course of company drill, all forms of marching exercises (the work to be done almost wholly in the open air).

2. After school days (14 to 16 or 17 years of age). Two hours per week necessary attendance during a period of twenty weeks on instruction in this subject in 'continuation classes.'

3. That all instruction in physical exercises be given by certificated teachers, teachers who have received adequate training while at college or university, and whose course of professional preparation ensures at least an elementary knowledge of the relations of mind to body, and both to morals.

4155. *By Sir Henry Craik.*—Have you any general supervision over this subject in the other schools or is your knowledge of it only confined to the Blackness School?—My knowledge of it is confined only to my own school.

Lectures. 4156. As lecturer on education in University College, Dundee, have you given any attention to this subject?—I have drawn up a scheme of physical training for the students in that College. It has been approved by the Department. I have the scheme with me.

4157. You make that a part of the curriculum in your course of lectures?—It is a part of the curriculum.

4158. Do the teachers from Dundee attend these lectures?—No, only the students in the College under training.

4159. Then it is only by a casual knowledge that you can give us the information about the Board Schools?—No; not altogether casual.

4160. It does not fall in the way of your strictly professional duties?—No, sir.

Teacher classes: Art. 91 none in Dundee. 4161. Are there any classes for teachers under Article 91 (d) in Dundee?—No, sir; none in Dundee.

4162. At the end of the third paragraph of your notes you say, 'or for any purpose other than the physical, 'moral, and intellectual development of the pupils.' I do not quite follow that. What other purpose would you conceive besides those?—Well, this subject has been used for other purposes. For instance, I have used it myself for such purposes as public displays to get money for forming a school library, and so on. We have frequently had exhibitions of this in Dundee, attended by parents of the pupils, who have given money to see them. These displays are so popular, and by such means we have raised money.

4163. It stimulated the interest of parents?—Stimulated the interest of parents. Those are the purposes that I refer to.

4164. Blackness School is a free school, I suppose?—Yes.

4165. Is it attended by the poorest children?—No, not the poorest; probably the higher working class and the lower middle class—foremen in mills—their children, and the shopkeepers' children.

Physic instru develo Blackn School. 4166. And do you think that the physical instruction is rather more developed in Blackness School than in some of the poorer districts?—I know that it is.

4167. To what do you ascribe that?—To my own enthusiasm in the matter I ascribe it. I am very fond of this subject, and I ascribe any success in this direction I have had to practically undertaking this at the very beginning.

4168. Suppose a teacher equally enthusiastic had been in one of those poorer schools, would he have had as good opportunities as you have had?—Undoubtedly.

4169. The premises would have been as good?—Well, he could have utilised any premises in Dundee almost equally as well as I have utilised mine; I think it is possible.

4170. Why is it that in some of those poorer schools there has not happened to be a teacher with

such enthusiasm?—It is a movement which is only spreading.

4171. Possibly there is not the same demand for it amongst the parents?—Quite as much demand, I think, in any part of the city as where I teach.

4172. The need of it is probably greatest in the poorest districts?—Undoubtedly.

4173. And yet you say in your own it is better developed, and I suppose still better developed in the fee-paying schools, like the Morgan Academy and the Harris Academy?—Well, I do not know that they have given the attention to it that I have. I tried it experimentally.

4174. Have you any experience in continuation classes?—None whatever.

4175. But you advocate, I see, two hours per week necessary attendance during a period of twenty weeks for boys from fourteen to sixteen?—Yes; I think that would be a very good thing.

4176. You mean compulsory attendance?—Yes, I do.

4177. And you think public opinion is ready for that?—Quite ready.

4178. You are convinced of the advantage it would be to those boys?—The great advantage.

4179. *By the Chairman.*—The twenty weeks that you recommend, is that immediately after such children reach the age of fourteen?—Yes, my lord, I think so; just to continue it so that there might be no break in the work.

4180. That would leave them in a fitter condition before they had attained the age of fifteen?—This is only a suggestion.

4181. I know, but have you ever considered that a certain amount of physical training should not be given to that boy up to the age of eighteen?—My desire was only to have this work continuous after school days.

4182. You mean it is the first step, as it were?—The first step; in fact, you might call it compulsory volunteering, if you can use such a term.

4183. It would be, as it were, prolonging the compulsory education age to fifteen or sixteen instead of fourteen, where it has got to at present?—Yes; in this subject at least, my lord.

4184. Although you have no acquaintance with continuation classes as regards your teaching, of course, you naturally know a good deal about the subject?—Yes.

4185. And would it be your opinion that in such continuation classes physical training should not be separated from the mental training, or should be separated?—It should never be separated.

4186. In the continuation classes?—In the continuation classes.

4187. But, of course, as to separation, it is a thing that should be done in the same day or in the same week?—Certainly.

4188. Both the physical part of the education and the mental part?—Yes; I look upon the physical training of all children from an educational point of view, purely and simply.

4189. The one helps the other?—The one is coincident with, and cannot exist without, the other.

4190. What I rather mean is, it would be quite possible that the physical part of the education should be given in one place, and the mental part should be given in another?—Oh, yes; quite possible.

4191. That might be so, rather more liberty for education?—Yes.

4192. I think the Commission would like to hear something about the opposition that there is in Dundee to any of these ideas for improving that physical education?—I think the opposition is of no consequence, in my opinion; it is a very small opposition.

4193. Do you think the opposition comes from any particular class, or does it come from parents in general?—Certainly it does not come from parents. I have had fifteen years' experience of this with great numbers of children, and I have never yet had one parent object to his child being drilled as I have drilled him.

4194. *By Sir Thomas Coats.*—You advocate one hour per week being given to physical drill; do you think that one hour can be quite easily taken for that purpose without interfering with the mental training of the children?—Certainly, sir. Physical drill: time.

4195. And you consider that it is essential?—Absolutely.

4196. That you have an hour—at least an hour?—Yes. I do not think less time would bring about what we wish.

4197. In other words you think that this hour devoted to physical training would quite make up for the loss of the hour?—To my mind it is a gain to every subject in giving this hour; I mean that we are not taking from any subject by giving it to this physical training; we are helping every other subject.

4198. Do you consider that one hour is sufficient, or would you go further?—I should not go further meantime.

4199. *By Mr Shaw Stewart.*—In your scheme of suggestions, I see for boys between ten and fourteen you recommend company drill and all forms of marching exercises, but would you neglect what is called physical exercises?—No, certainly not, sir. Physical exercises: continuous.

4200. You did not mention them?—I have not mentioned them there, but these are the new things that I would like to introduce in each school, carrying all those physical exercises I have mentioned in a continuous system—from the infant school straight through.

4201. I am glad to get that point clear. Then you would be in favour of certificated teachers taking instruction; would you be in favour of that teaching being subject to periodical revision by experts?—Certainly, sir. Teachers: supervision by experts.

4202. And should these experts report straight to the Department?—Certainly.

4203. *By Mr Fergusson.*—Then you are very much impressed with the value of physical training from an educational point of view?—I am. If you will allow me, I will mention an experiment I made, which will prove how deeply I am impressed with this matter. When I opened my present school thirteen years ago I had a staff that I did not know anything of, and the first morning I had 600 children, who came from different schools, and who did not know me, and whom I did not know. I resolved that for the first ten days, at least, I should give no instruction except such instruction as might be called physical training. I instructed my teachers to get into relationships with their children by drilling them, by taking them into the playground, by playing with them, by doing anything that they might have a cordial relationship with each other, and I found that it was chiefly through the physical exercises that I brought that about. I would not allow a single book to be bought or a single bit of ordinary school work to be done for those ten days. That was in September 1889. My school was examined in March—the following March—six months, and I received from His Majesty's inspector the highest possible grant in that short time for 1000 children, who had accumulated by that time. I attributed that to this system of getting my pupils and my teachers into close relationship, and that can be done best possibly through physical exercises. Physical training: of great value.

4204. Then hitherto the physical teaching in Dundee has been, you may say, rather haphazard?—It has.

4205. And you wish to have it reduced to a thoroughly organised system?—Yes.

4206. Now you were asked about the feeling which exists in Dundee, the feeling in some quarters against introducing military training into school. You say there is only a small body of people who hold those views?—Very small.

4207. And not among the parents?—I have never met it.

4208. But still it is held among some members of School Boards, who can make their weight felt in that way?—Well, their voices only, sir.

4209. So that it is a factor which has to be reckoned

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with?—I should not reckon with it, sir; I do not think it is worthy of being reckoned with.

4210. But do you not think, if you can carry everybody along with you in arranging a system of physical training, it would be much better to do so?—Undoubtedly.

Physical training: order of importance.

4211. Members of School Boards, I suppose, are of some weight. Well, now, do you find any difficulty as regards the time required for teaching physical training. We are told that the curriculum is overloaded, and that there is a great difficulty in finding time?—I find no difficulty; I should give more time to it and it would repay me.

4212. You do not think it would interfere with the other work?—Not at all, sir.

4213. That is your experience—your practical experience?—My experience of fifteen years.

4214. You put physical training as the most important?—I do, sir.

4215. Book-learning second?—I do.

Compulsion.

4216. You say you have not much experience of continuation schools, but you recommend compulsory physical training?—I do.

4217. Let me suggest to you another plan, and I should like to ask you what you think of it. Supposing you make some sort of education compulsory from fourteen to sixteen or seventeen, and you make physical training and gymnastics a special feature, and make them to count as attendance; make them attractive, but not compulsory, if the pupil prefers another subject?—I should like it to count as a subject undoubtedly, but I am so much impressed with the value of it that I should wish that every pupil in those years should have that subject, although the pupil had no other subject.

4218. Do you think it would be quite fair to make that compulsory, when the effect might be to exclude the pupils from learning more mathematics or more French, or whatever they wished to learn?—Not to exclude other subjects; certainly not, sir.

4219. They have not time for everything?—They have not; but by that time they are specialising. This is a thing which is not special at all, it is general to every individual, the development of their bodies.

4220. You would be prepared to make physical training compulsory and let the other subjects take their chance?—I would.

4221. *By Professor Ogston.*—In your lectures in the Dundee University you deal with this subject, I suppose?—Theoretically.

4222. You theoretically teach those who are being trained for the profession of education?—I do, sir.

4223. Is there any standard work on the subject that has yet appeared?—No.

4224. It is being formed?—It is being formed.

4225. You deal with girls as well as with boys in the Blackness School?—Yes.

4226. And in training your teachers you also consider sex and age?—That is quite true, sir.

Curriculum: theoretical scheme suggested.

4227. In theory what proportion would you assign the mental, and what the physical training?—You mean in the curriculum?

4228. In a perfect scheme of education. You are a teacher of it; I ask you the question, because you lecture on this in the University, and your views are therefore important; as a theorist, what proportion would you assign?—I would base all education, of course we must base all education, on the activity of the child first of all, and, working from the activity, which is the physical activity of the child, we can develop it into the co-ordination of the mental and the physical. In other words, I would base all educational work upon the first free play of the child's physical movements, and then work out this physical training so as to co-ordinate him as a good citizen.

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4229. So that question, as I put it, does not admit of a yes or no answer?—I think not.

4230. Is there any other point that you, having thought upon this subject, and having lectured upon it, would like to put before the Commission besides what we have asked or what you have volunteered?—My ideas are formed altogether from an educational point of view. I first wish to take a hold of the child as an active being, and to get at his mental development through his physical activity, and by means of physical exercises in early life, I think I can teach him the principle of subordination. By means of commands deliberately given I think the child also learns the resources of his own body. He is also conscious of the power that he has over his body; he feels also in these exercises that he is one of a corporate body, and is working along with others; and by these means I think he is learning to become a good citizen, because citizenship, to my mind, is a question of the co-ordination of the units, and I think if we teach the child first the great principle of subordination, then he will get to some feeling of self-control, and his obedience will not be as the pure mechanical, selfish obedience that sometimes we have in pure militarism, but it will be the true obedience, where he has the control of his will over his actions. I may not be plain, but I feel very strongly in this matter, that in the ordinary affairs of life we should try, as far as possible, to make the child automatically virtuous. In the ordinary affairs of life we can reach the best through physical training. As long as he is automatically virtuous in the ordinary affairs of life, he has more mental energy to devote to the greater ones, therefore psychologically I think physical training is the best avenue of approach that we can have to mental development in the child. We cannot approach the child's mind except through the body, and we cannot teach the semi-mechanical virtues to this child unless through the physical exercises that we devise for him.

Educational views on subject.

4231. Lastly, are those views that you have just expressed similar to those that are taught by the other lecturers on education in the Scottish Universities?—I do not think the lecturers on education in the Scottish Universities, probably with one exception, have taken this matter up in a very great degree.

Individuality.

4232. *By the Chairman.*—Just one question: have you ever thought that in bringing everyone, as it were, to a common level, you are necessarily damaging individuality?—My lord, I think I am promoting individuality by that means.

4233. And you think that not only are you teaching boys and girls to obey, but you are teaching them to command in later life, if necessary?—Yes; it is only those who learn to obey who know how to command.

4234. Yet I may put it to you that some of the greatest commanders that we have known have been the most insubordinate when in a subordinate position: is that not so?—I do not doubt it; but I am speaking of the general question, theoretically.

The witness withdrew.

Adjourned.

NINTH DAY.

Monday, 26th May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr WILLIAM SCOTT, examined.

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4235. *By the Chairman.*—You are the representative of the School Board of the parish of Dundonald, in Ayrshire?—Yes, my lord.

4236. And you are also headmaster of the Portland Public School in Troon?—Yes.

4237. And have been so for 27 years?—Yes.

4238. The population of Troon you say is 4696?—That is so.

4239. And comprises three schools, namely, Troon Portland Public School, Dundonald Public School and Loans Public School?—That is for the whole parish of Dundonald; only one school for Troon.

4240. And there is also a Roman Catholic School in Troon with about 70 scholars?—Yes.

4241. That makes altogether about rather over 1000 scholars, counting the Roman Catholics?—Yes, counting the Roman Catholics.

4242. A new school was recently erected?—That is so.

4243. It contains a hall 32 feet by 24 feet where children get physical drill; and you say piano, dumb-bells, bar-bells and Indian clubs have been provided both for Troon and Dundonald schools?—Yes.

When the new school was completed, the Board appointed a competent drill instructor who had been trained in the Royal Navy, and holds a certificate from the National Physical Society of Great Britain. He performs the duties of school janitor at Troon, and he is also compulsory officer and drill instructor for the schools at Dundonald and Loans as well as Troon. The Board has all along recognised the importance of physical training. At Dundonald School, which was erected in 1896, there is a hall 60 feet by 24 feet for drill purposes. In the infant department at Troon there is a classroom with piano, for the infants getting free exercises from the teachers. The extent to which use is made of drill by the scholars is as follows:—In Troon School, senior division, there are six classes, each containing from 30 to 40 scholars. Each class gets half an hour's drill per week with dumb-bells, bar-bells and Indian clubs. The scholars march to music on entering and leaving the school. In Dundonald, senior division and part junior, there are three classes, also containing from 30 to 40 scholars. The drill is the same. At Loans there is one class numbering from 15 to 20, which gets half an hour per week of drill with dumb-bells and bar-bells. There is no hall. The drill is done in the playground when the weather is favourable. When the weather is unfavourable, the class gets free exercises in the school. I have no hesitation in stating that the children enjoy these drills. The majority of the pupils are very fond of drill, and there is only an occasional boy or girl who does not take to it. Drill is compulsory in the schools for all the children, except where the parents request exemption on account of the child's health. In my opinion the drill is beneficial to the children, and more drill is desirable. This might be provided by extending the time-table. I think a gymnasium for continuation classes would be both attractive and beneficial. There are continuation classes at Troon, but no drill or gymnastics are taught.

4244. *By the Hon. Thomas Cochrane.*—Is the public hall at Troon fitted up as a gymnasium?—No, sir; not the public hall.

4245. You call it a public hall in connection with the school?—Oh, no, just a hall for drill purposes; the entrance hall, in fact.

4246. Is it suitable?—It is rather small. Were it larger we would be able to give more drill, because the classes are restricted to some thirty or forty at a time.

4247. In Dundonald parish, which embraces Troon, you get a mixed population, purely agricultural in Dundonald parish?—Agricultural in the parish, and in the burgh of Troon there are a good many workmen, and pretty mixed. Town and country children.

4248. All the children take part in these physical exercises?—Yes.

4249. And they all benefit?—I think so; I am sure of it.

4250. You think from your experience that it does them all good?—That is so.

4251. The purely agricultural children, it does them good too?—Undoubtedly.

4252. But it is more necessary in the case of the town children?—I should think so.

4253. Half an hour per week, is that the allowance?—That is the allowance in the meantime. Time: insufficient allowance.

4254. Is that sufficient?—I do not think so.

4255. What would you suggest as being sufficient?—At least two hours a week, and for the senior scholars about a quarter of an hour or twenty minutes per day.

4256. That would be the boys and the girls alike?—The boys and the girls alike.

4257. Would you give both sexes similar physical exercises?—Yes, so far as the drill that we give them, that is dumb-bell, bar-bell, and Indian club exercise.

4258. They are all suitable for the children of both sexes up to fourteen years of age?—Yes.

4259. And they get benefit from it?—Yes.

4260. There is no swimming, I think, taught at Troon?—No.

4261. I think there are no facilities for swimming at Troon except in the sea?—Not in connection with the school.

4262. And your naval instructor, what system does he teach; you said you had an instructor who had been in the navy, I think?—He was a trained A.B. in the navy, and he teaches physical drill, that is the drill as set forth by the National Physical Society of Great Britain. Instructor naval.

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4264. He has a certificate?—He has a certificate from them.

4265. And you approve of his system?—Yes.

4266. It is calculated to develop the better physical qualities of the children?—Yes.

Continuation Classes.

4267. *By Mr M'Crae.*—Are the continuation classes taken much advantage of in your district?—I think fairly well.

4268. How many nights a week do they meet?—Four nights.

4269. You say they get no opportunity at all for physical training?—They have not hitherto.

4270. Could that be worked in during the four nights, or would you require an extra night if it were added to your curriculum?—It might be worked in during the four nights, or it might be added; either way might be done. We have not tried it yet.

4271. How would you suggest that training should be given, by a special night, or would you give a certain amount of the time per night to it?—I am not sure which would be the best way.

4272. Then what facilities could you give for that; you would have the use of the hall you refer to?—I think we would have to build a special hall for the purpose, a special gymnasium.

4273. Where do your continuation classes meet?—In the school.

Physical training: benefit.

4274. *By Sir Thomas Coats.*—In this half hour which is given per week for the physical training of the children, is it very evident that the children are getting benefit from it?—Well, I would judge from this, that in a few cases weak children complain of it doing them harm, so that if it should do weak children harm, it would, I think, benefit healthy children.

4275. Does that follow, do you think?—It is a negative way of looking at it, certainly.

4276. How long has that been going on in the school?—This is our second year.

4277. Only the second year?—Only the second year.

4278. So you have not had an opportunity of seeing what it would do, that is by the younger children taking it and following it up for a long time?—No.

4279. And for half an hour during the two years the benefit cannot be very evident, I should think?—No; only getting half an hour per week; I think more should be given.

4280. You have no means of gauging the benefit; you do not take any notes about the children?—No, further than observation.

Complaints from children.

4281. *By Mr Shaw Stewart.*—You mention that sometimes weak children complain of the exercise given being too much. Do you frequently get complaints of that?—I should think about 10 per cent.

4282. You would agree, of course, that the object of physical exercise would be to make weakly children stronger?—That is what I tell them when they do make any complaint of that kind. Sometimes we have a complaint of a child having a weak heart. Well, we do not risk anything there. Sometimes parents in their ignorance complain of the children having pains in their arms.

4283. I thought you said the children themselves complained?—Well, the children complain in the first place, of course.

4284. Would not physical exercises benefit them more if they had more frequent exercises for a short period at a time?—Well, sir, a shorter period would be right once they had learned the movements, but I think half an hour at a time is little enough until the movements have been learned.

4285. Well, but supposing for the small children they received ten minutes every day?—I speak more for the senior children. That is so with regard to the juniors.

4286. Ten or twenty minutes, then, for a weakly child, would probably do that child good if he or she persevered in it daily?—I should think so.

4287. That is your opinion?—Yes.

4288. *By Professor Ogston.*—How many children have you whose parents object to their getting physical training?—About half a dozen; on the score of it being injurious to the children do you mean?

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4289. No; I mean on any grounds?—They do not object unless they think it is injurious to the child.

4290. So that six out of the thousand is about the number?—Not more.

4291. But over and above that, you think that there are 10 per cent. of weak children?—Yes, who are now and again complaining temporarily.

Physical training; more desir able.

4292. *By Mr Fergusson.*—If you think that the physical training is good for the children, and the half an hour is not sufficient, as you have told us, why do you not increase the time?—The reason we have not increased it is because we have not time. The only way that I can see in the meantime is to lengthen the time-table, and why we have not done it, we had a disinclination to lengthen the working day for the children.

4293. Well, but is that the only way? Can you not shorten the book work and lengthen the physical work?—Well, there are so many subjects, it is very difficult to do so.

4294. You have not sufficient faith in the physical training to trust that a little more physical training would compensate for the loss of time in the other subjects?—I think we might add half an hour per day for physical training without taking anything off the other subjects.

4295. Your experience is only in your own school and in the parish of Dundonald, this is only the second year?—This is only the second year.

4296. Had you no experience before of teaching children physical exercise?—Yes. We always gave them something, but not to the same extent as we do now.

4297. But have you yourself had much experience of physical training?—No, sir, further than that I used to give them military drill in the playground.

4298. What are your boys doing when the girls are doing their sewing?—They are getting these physical drill exercises; that is the time they get them.

4299. What are they doing when the girls are getting their physical exercises?—Well, they are getting some other work in the classrooms.

4300. But is there not a time that you can devote to boys? Girls do all the same subjects as the boys, and also sewing, might not the boys employ the time that the girls are doing sewing in physical exercises?—That is the time the boys get their physical exercises.

4301. There is also the time the girls are getting their physical exercises; does that only amount to half an hour a-week?—Yes, sir.

4302. You say you do not know what system exactly is taught by your instructor?—The system taught by the Physical Society of Great Britain.

4303. It is not Cruden's?—It is something similar to Cruden's.

4304. Is there much drill in it? when I say drill, I mean marching about; or is it mostly what are called the extension motions?—Yes, sir; not much marching.

4305. Mostly the arms and legs?—Mostly the arms and legs; yes.

Underfed children.

4306. Have you any children who are not properly fed: underfed children?—Well, very few.

4307. Where are they, in the town or the country?—They are connected with the shipbuilding yard mostly.

4308. Now do you deal with them in any way: do you take any steps to see that they are better fed?—No.

4309. Nothing is done?—Nothing is done in connection with the school.

4310. Have you any experience of the difference between what you get out of a child when it is fairly fed and a child when it is underfed?—Well, they are so few that are in that position that I have not given it much consideration. What I refer to as underfed children would be, perhaps, the children of parents who misbehave.

4311. They neglect their children, in fact?—Yes.

4312. But you take no official notice of that?—No, sir.

4313. *By the Chairman.*—You are here representing your School Board, are you not?—Yes.

4314. Are you on the School Board, or how do you come here to represent them?—I am headmaster.

4315. I mean, what acquaintance have you with the proceedings of the School Board; how is it you came here as their representative, that is what I want to know; are you in a position to be able to answer for them—for their opinions?—Oh, yes; I got instructions from the School Board clerk.

4316. And what did he say as to the attitude of the School Board as regards this Commission, or did he say nothing; I want to know—I mean, how far are you here as representing the School Board?—To state that the School Board will, as far as possible, advance the opportunities for physical education.

4317. That they were practically speaking favourably to not only the present physical education in schools, but even to an increase of it: is that so?—Quite so.

4318. I mean, you are here authorised to say that?—Authorised to say that; yes.

4319. When you said that you thought half an hour a week was not sufficient, you did not only say it of yourself, but you said it as representing the School Board?—Yes.

4320. And that is their opinion on the matter?—Yes.

4321. Have you ever heard in your district any complaints or remarks about any possible increase in physical training?—No, not outside.

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4322. I mean lately, with reference, say, to this Commission, whether there has been any talk about anything that you could speak to?—Well, the only thing I could say is, there has been some talk about the military drill as apart from the physical drill.

Physical and military drill: objection to latter.

4323. What do they mean by 'military drill'?—I suppose what they mean by 'military drill' is company drill, including front-formings, rear-formings, turnings, and so on, and marching.

4324. And these forms of physical training are considered wicked, is that so?—I do not think so. I know that one or two members of our Board are afraid that perhaps by getting drill of that kind it might tempt lads to enlist when they became old enough for this purpose.

4325. It might be made so attractive to them that they might be induced to enlist?—That is the view of some of them; that is not my opinion.

4326. You said some time ago you used to do military drill in the playground?—Yes.

4327. Was that ever objected to in those days?—Oh, no.

4328. How did you come to be able to give 'military 'drill,' as you call it?—Well, I have been a volunteer officer for a number of years.

4329. And did you find any reluctance on the part of the children to be drilled in military drill?—No; they seemed to enjoy it.

The witness withdrew.

Mr George Young Bain, examined.

Mr G. Y. Bain.

4330. *By the Chairman.*—You are a member of the Kilmarnock Burgh School Board?—Yes.

4331. And have been so for fifteen years?—Yes, that is so.

4332. You were also for five years a member of the Town Council?—Yes, my lord.

4333. You have also been a Magistrate?—For three years.

4334. And have also taken an active interest in the training of the young?—That is so. The Burgh School Board have six schools, besides the Academy, with a school roll (including 259 at denominational and private schools) of 6368, an average attendance of 5404, being 84·86 of the roll. In all the elementary schools in town there has been for many years past physical training to a greater or lesser extent, consisting of drill, besides exercises with dumb-bells, bar-bells, Indian clubs, expanders, wands, rings, hoops, etc., and in one of the largest schools (Bentinck) they have also had military drill with sham guns. In the case of the Hamilton school, which was formerly the Academy, they have appliances for gymnastic exercises. It is now an elementary school. As regards the Academy, with accommodation for about 1000 pupils, in addition to the above appliances in use in the elementary schools, the janitor is a retired drill sergeant, who drills all the pupils in a central hall, and there is a well-equipped gymnasium and swimming bath, which are largely taken advantage of, besides a workshop for manual instruction in woodwork under the charge of a skilled mechanic. Generally speaking, the opportunities given are fully taken advantage of both by boys and girls, and are appreciated more than the ordinary school work. The teachers report that it has had a very beneficial effect on the scholars—promotes discipline, and has had a very good influence on their physique. The reasons therefore are, no doubt, that the pupils enjoy the exercise, and strive with each other to excel. Recently at the Academy there has been started, with considerable success, a cadet corps, which numbers over 100, and this branch of physical exercise is very popular, and likely to increase. If physical exercises are to be much extended, it would be necessary to have a drill hall or other covered enclosure, to enable the exercises to be carried on independent of the weather. To supply these would add considerably to the expense, and it is suggested that in some way or other grants should be given for such buildings, or perhaps that an annual grant should be given for efficiency of the pupils in attendance on such exercises—something similar, perhaps, to the grant at present given for drawing. If grants were given, or some similar encouragement, greater time could be given to such exercises, and consequently, it is hoped, greater good would result to the health, discipline, and moral and physical culture of the pupils.

4335. What knowledge have you of the examinations in your schools in this physical training; were you ever present at them?—In the elementary schools it has been made a special feature of at all our annual examinations, so that, instead of the old form, which we had in Scotland, of examination by reading, writing, or recitation, it has taken the form for many years past of showing what they can do with physical exercises.

Inspection.

4336 And have you been present at those examinations?—Oh, at all those.

4337. And who has examined them—the Inspector?—Oh, no, not at them.

4338. But I want to know have they not been examined in physical exercises by the Government Inspector?—Well, I am not aware.

4339. Therefore you have not been at the inspection by the Government Inspector of physical training in any of your schools?—No.

4340. You have no medical examination in any way of the scholars under your School Board?—Oh, nothing of that kind.

Medical inspection.

4341. As scholars I mean?—Not as scholars.

4342. Have you ever formed an opinion or thought of the subject whether it would be beneficial or not to have a medical examination of scholars?—Well, I have never thought much about that; but, generally speaking, the parents have told me that their children were very much benefited in their general health by the exercises they were receiving at school.

4343. Have you known any instances to the contrary where they have not been benefited; where they have been overworked, as it were?—No; none of the

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headmasters have given a single report on that, with the exception of one.

4344. You have not heard it by common hearsay?—No.

4345. It has not come up at the School Board elections, or anything of that kind?—Oh, no, nothing of that kind.

4346. Have you had any discussions on the subject of this Commission at your Board?—Yes, we had.

Board favourable to more physical training.

4347. May I ask you whether the Board has taken any decided view about it; has it considered it sufficiently, or did it merely decide to send you up here to make a general recommendation?—We have been very favourable to the continuance of this special training, so much so that the new academy that we built,—it has only been in use for four years, what we call our best school, the only fee-paying school in the Burgh with accommodation for 1000 pupils—has had all the latest appliances and buildings for physical training, attached to and carried on, in connection with it.

4348. And have you heard anything in the Burgh of Kilmarnock deprecatory in any way of more physical instruction than has hitherto been given?—Nothing; no, rather the opposite.

4349. No accusations of a tendency towards militarism?—Nothing of that kind.

4350. And you would be in the way of hearing such things, I suppose?—Oh, certainly.

4351. If there had been any feeling in the matter?—I would have known it; indeed, we have a class I have not reported on here; I can give you a little further information in regard to that.

4352. By all means do?—I have it written out here with reference to the cadet corps and the continuation classes in connection with the Academy in physical training.

Cadet corps started.

4353. We shall be glad to hear that?—The Academy cadet corps was commenced in March 1901; it numbers 100, and is attached to the 1st Volunteer Battalion Royal Scots Fusiliers, and is drilled by Captain Yuille, who is a certificated teacher on the staff of the school. Three hours' drill per week is given, after school hours. The War Office has supplied, free of charge, 50 carbines serviceable and 50 of same for drill only. All expenses for clothing have been borne by the parents of the corps, but the belts were supplied by voluntary public subscriptions. The School Board erected covered armracks at its own expense. As yet no shooting-range accommodation has been provided, but we have prospects of the use of a local safety one which is shortly to be erected in the vicinity of the town, but we would require to pay for it. Ammunition, instruction, and proper keeping of arms will come to be a charge. The corps has lately been highly approved by the Commander-in-Chief for Scotland, Sir Archibald Hunter, and specially well commended, on Tuesday last, 20th May, by the Adjutant, Captain Swetenham, who has since sent Captain Yuille a contribution of £5 towards enabling the cadet corps to perform their musketry this year. The janitor of the Academy, Sergeant-Major Fairbairn, is a fully qualified gymnastic instructor, and a member of the National Society of Physical Education, London. He holds a Saturday class in Kilmarnock for teachers throughout the county of Ayr, to qualify them to give physical training in their various schools. He has also published a small book on the subject. I have a copy here. Besides these there is a football club in connection with the Academy, and annual public athletic sports, to which the public are invited. Evening gymnastic and physical drill classes have been held for the past two years, and have been well attended, two and a half hours twice weekly for six months—October to March inclusive. The expense to the Board in connection with this class is considerable, a small fee (5*s.* I think) only being charged. With regard to physical drill and manual instruction in woodwork, lessons are given free to Academy senior pupils during the whole year. Then we have a large swimming bath for use of boys and girls in all the Board Schools. It was opened towards the end of last year. We could not get water or it would have been opened earlier. One penny per bath is charged. I think that gives you a good idea of what we are doing in Kilmarnock, and the feeling generally has been favourable, indeed, I have some young men in connection with my establishment who have attended those classes and been greatly benefited by them, and took a great liking for them.

Gymnastic instructor.

Classes held.

Swimming.

4354. *By Mr Alston.*—The cadet corps is attached to the Academy?—Yes.

4355. That, of course, is a well-to-do school?—Yes; all the other six are non-fee-paying; they are elementary schools; the Academy is the only fee-paying school we have under the Board.

4356. On the part of the parents of the boys in the Academy there is no difficulty as to meeting the cost of the uniform?—They are only wearing their first suits yet.

4357. Do you happen to know what it costs—the outfit?—Oh, it was not very much—just a suit; I think about two guineas—the belts, as I say, were subscribed for by public subscription by a few friends.

4358. But the School Board would not see its way to attach a cadet corps to the other schools; have you other schools in Kilmarnock?—We have others, what we call our purely elementary schools.

4359. The Board would not see its way to attach cadet corps to them?—No.

4360. But on the other hand you know apparently some little body at military drill with sham guns?—That is the elementary school. The headmaster of that school (Mr Walker) was a very strong volunteer, and he has given them a little more than the other schools without any charge for it.

4361. Then it is the same military drill as the cadet corps get?—Not to the same extent; only with little wooden guns at intervals and not so much as the cadet corps.

4362. But you call it military drill; you mean a little more than marching and turning?—Oh, yes; I think so.

Physic exercis militar no obj on scor 'milita

4363. Then do we understand that the School Board of Kilmarnock are quite favourable to the extension of physical exercises, and even to the introduction of military drill?—Well, they have said nothing to the contrary. Of course, from the point of view of the health of the pupils as a groundwork, the Board are very favourable to physical exercise—physical training.

4364. But they do not draw the line at physical exercise and bar military drill?—No, they have said nothing to that effect.

4365. Have you found any objection on the part of parents to the introduction of military drill solely?—None; I have spoken to a number of the lads who are members of the cadet corps, and they are all proud of it—the lads themselves. I met them a few weeks ago going to church parade one Sunday morning. I said, 'Well, boys, where are you going 'this morning?' 'Oh, church parade.' They were waiting on one another to go up the road in the outlying better class part of the town. They were quite proud of the position they had in going along with the other volunteers to church parade, so, I say, there has been no feeling, as I have seen it expressed in some other places, of fear that it encourages the spirit of militarism too much among the lads.

4366. But that is not the Kilmarnock view?—Not the Kilmarnock feeling, as far as I have heard of it.

4367. The boys enjoy the drill, but the question is, do the parents object on that account?—Nothing that I have heard.

4368. We have evidence which seems to point to this, that some members of school boards object to it in case the boys enlist?—We have no fear of that in Kilmarnock.

4369. The Kilmarnock Board at any rate do not take that view?—No; indeed, during the last two or three years, since October 1900, the volunteer force has been very largely augmented; a great many young men have joined the volunteer force, and are liking it, apparently.

4371. Is there anything known in Kilmarnock about the Boys' Brigade?—Nothing formally. No; I think nothing to any extent. There is something in connection with some of the churches, but nothing to any extent.

4372. *By Mr Fergusson.*—How much time per week did you say was devoted to physical training?—In the cadet corps?

4373. No; for physical training in your elementary schools?—Well, some of them are allowed by the Code two half hours per week during school hours.

4374. What do you actually do?—Well, in the Academy they have more after school hours.

4375. Oh, yes, but that is after?—After.

4376. Perhaps you do not know the exact time that is devoted in the school?—Some get half an hour and some get two half hours per week; that is in our elementary schools.

4377. I see you say in your last paragraph, 'If 'physical exercises are to be much extended, it would 'be necessary to have a drill hall'; but can you not extend the physical exercises by extending the time, continue doing them in the same way as you are, but increase the time devoted to them?—In our purely elementary schools we have not space inside the school.

4378. But if you have space to do half an hour you have space to do one hour, and if you have space to do one hour you have space to do two hours?—But outside exercises cannot be engaged in all the year round for want of accommodation outside.

4379. No, not all the year round, not every day. I know we have a bad reputation in the West, but it is not always raining even in Kilmarnock?—No.

4380. But do you not think that is one way? You say very truly that it is very expensive to build a drill hall, but do you not think you can increase your physical training by increasing the time devoted to it?—That could be, certainly.

4381. That might be one way of doing it?—Oh, yes.

4382. Is this swimming bath in connection with the Academy, or is it a public swimming bath?—It has been built by our School Board for the use, primarily, of the scholars attending all the schools under the Board in town.

4383. Was that built at the expense of the rates?—Yes.

4384. And you found it very beneficial?—It is not long started, but it will be.

4385. Is it popular?—We have had very little experience of it yet; it is only since the month of October that it was started, and the weather has been very cold. It has got a bad start, but I know many who are attending it and enjoying it very much.

4386. There was no objection on the part of the ratepayers to its being constructed?—Oh, no; so much so that the Town Council, with the sanction of the Education Department, gave us liberty to grant them part use of it for the public; there is a general feeling in favour of it; they are looking forward to building one in connection with the town, I think.

4387. *By Sir Thomas Coats.*—With regard to the Academy; you say there is accommodation for 1000 in the Academy, but how many scholars are there actually there at present?—The roll, you mean.

4388. Have you any idea roughly how many there are there?—Between 800 and 900.

4389. And would half of these be boys?—You see it is partly a purely elementary school. The ground floor is elementary—it is a three-storey building—and the first and second floors are, I think, solely for the higher grade department. I should say one half are boys, the other half girls.

4390. What proportion would there be of the higher grade?—I am not quite sure, but speaking from memory there is about an equal number.

4391. Half, do you think?—Yes; 400 to 500 in the higher grade department.

4392. Taking it that half of these would be boys, there would be between 200 and 250 boys?—Yes, in the higher grade department.

4393. Nearly half of these boys are in the cadet corps?—One hundred, fully, as I said.

4394. It is only the older boys who will be in the cadet corps, of course?—Oh, certainly; yes.

4395. Besides this cadet corps, do you give special attention in the Academy to physical exercises; I mean outside of those who belong to the cadet corps?—Oh, yes; I think I mentioned that we give that after hours in the Academy.

4396. For both boys and girls?—Yes.

4397. I wished to know, seeing you had a cadet corps, that the other children were not neglected with regard to physical training?—Oh, no.

4398. And how long is it since you had this cadet corps?—Fifteen months.

Apparatus.

4399. *By Mr M'Crae.*—In the case of the Hamilton school, you say that they have appliances there for gymnastic exercises?—Oh, very small, for strengthening the arms and running along.

4400. Any horses; any wooden horses?—No, they have no room inside; it is a little shed outside.

4401. And that rule applies to all your elementary schools. Have you no hall where they can drill in at all. In the Bentinck school do these boys who have the guns drill outside?—Yes, they drill outside.

Continuation Schools: time.

4402. How are you situated with regard to the continuation schools—the evening schools?—We have had a class for the last two and a half years, under the special trainer, Sergeant-Major Fairbairn, a fully-qualified instructor.

4403. What training do they get; what hours do you give them?—They get two and a half hours twice weekly. It is given on two separate nights.

4404. How many nights a week do those classes meet?—Two, for six months—October to March inclusive.

4405. For the physical training alone?—For the physical training alone.

4406. Alone?—Yes.

4407. And how many nights do those schools meet for ordinary work; do they meet every night?—You mean the lads and girls attending the Academy after hours.

4408. After hours?—After hours.

4409. Do they meet every night; do they get instruction every night, I mean in the ordinary school work?—I am not quite sure whether he varies it every night with different lads and girls. Where there is a large number there is only a certain number you can take. It has been very much appreciated. The father of one girl, a big strong girl, was speaking to me last week. He said his daughter had been wonderfully improved in her health and physique and general bearing by the exercise she has had at the Academy, it has tended very much towards her health; and the same with the boys, I think.

4410. Do any of these pupils attend the physical training class only, or must they take the other subjects likewise?—Is that the evening continuation.

4411. In the evening continuation schools?—Oh, I think the bulk of them are lads who may be taking one subject, but they are bound to do that; they are young men who have gone to business and have had two hours a week, I understand, but a number of them attend other branches of education; the Science and Art School, or other branches of education.

Boys and girls: careers.

4412. What professions do the girls follow generally after they leave school in Kilmarnock?—Well, that is a wide question.

4413. Dressmaking?—The Post Office is beginning to open up a very good thing for girls with proper education; the Post Office, the Telegraphs, typewriting in our large factories and large works.

4414. And the boys; what do they generally follow after?—Oh, we prepare them for the University in the Academy; they go direct from the Academy to the University, and they have been very successful.

4415. But the boys who have been attending the evening classes, will they go to the University?—No; we have large factories, engineering works; the Glasgow and South-Western Locomotive Works are in Kilmar-

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nock, employing some 1300 or 1400 hands, and the Glenfield Hydraulic Engineers employ about 1500 hands.

Interval between boys leaving school and going to work.

4416. Is there any interval, do you think, between the boys leaving school and going to work, or do they just go to work immediately after they leave school?—From our Academy?

4417. Generally; I rather indicate from the elementary schools?—As you know, lads often get through all the elementary work by the time they are twelve years of age, and for children of poor working-class parents there has been a difficulty between the age of twelve and fourteen. They could not be taken into public works to learn a trade properly till they were fourteen years of age, and in many cases it would be a little against them leaving school so early.

4418. What do they do in the interval?—Good boys, clever boys, had the opportunity of coming from the free schools to the Academy free of charge, and that has been taken advantage of to some extent.

4419. But I mean those boys who have really left the elementary school at that early age; do they go as message boys before they learn a trade?—As message boys very largely, and a very useful thing for them.

4420. Can they leave school before they are 14 years?—Not according to the latest Code regulation, except by the special permission of the Board.

4421. You were speaking prior to that?—They could leave.

4422. After 12 years?—Yes.

4423. *By the Hon. Thomas Cochrane.*—As you were just saying, the boys are kept compulsorily at school until they are 14 years of age under the present regulations?—Under the present regulations they are.

4424. But when after fourteen years of age there is an interval sometimes of a year or two before they get permanent employment?—There is no difficulty in Kilmarnock.

4425.—I know Kilmarnock well; it is a very thriving town?—There is no difficulty; they all get employed.

Playgrounds.

4426. About playgrounds: are there good playgrounds in Kilmarnock in connection with the schools?—Oh, we have been improving since I went into the Board. The improvement in playgrounds and school premises generally has been wonderful, and we are adding to two of our schools just now—elementary schools. And that drill shed I was speaking about, for outside drill, is what all the headmasters of our elementary schools are feeling a want of. It could be done with very little expense.

4427. A kind of shed?—A shed which is supported on iron pillars.

4428. It would be of great advantage?—It would be of great advantage. If this is to be encouraged it would not take much; I do not think it would be an expensive thing at all.

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4429. Where do they play now, beyond the playground in the Kay Park?—Most of them have large enough playgrounds; one of our elementary schools has a public park—the Barbados Park—within easy distance, so that they can hear the school bell from the Park.

4430. And they play organised games there—football?—They have not room for football proper in the playground of the schools.

4431. Not much room?—No.

Games

4432. Would there be any advantage in taking a field somewhere for the combined schools of Kilmarnock where they could play games in a proper manner?—Well, they have that in the Barbados Park; it is convenient; there are a number of football pitches there.

4433. They can nearly all play?—Oh, yes.

Swimm

4434. You have got a good swimming bath now?—A good swimming bath.

4435. The Fenwick water supply is in operation, but have you got an instructor to teach swimming?—Sergeant-Major Fairbairn is a qualified instructor. We have got an assistant for him very lately to take some of the work that he had; we are feeling our way in the matter.

4436. Have you got any female instructor to teach the girls?—No; Sergeant-Major Fairbairn is a married man, and he teaches the girls.

4437. There has been no objection?—No, no objection. We may require to have a female by and bye.

4438. The Academy cadet corps seems to be very successful?—Oh, most successful.

4439. It is a well-arranged school—the Academy?—A very well-arranged school.

4440. You are a large business man too, are you not?—Yes.

Physi traini benefi

4441. You have experience of those boys after they leave school—in business?—Yes.

4442. And do you find that the physical training makes them better?—Oh, certainly. I have in my employment a certain number who have attended those classes of Sergeant-Major Fairbairn.

4443. And you find them smarter and better?—Oh, yes; they tell me themselves they are very much benefited by it.

4444. So that—as you say in your concluding passage—it really does improve the health, the discipline, and the moral and physical culture of the pupils?—Quite true.

4445. From your experience as a public man and a business man, you are very strongly in favour of physical training for children?—Physical training, whatever use it may be put to in later years, I think it is a good thing to give it them as far as practicable; there is no doubt of that.

The witness withdrew.

Mr C. J. Shearer.

Mr C. J. Shearer, examined.

C. J.

Ardrossan School Board. Physical training: amount given.

4446. *By the Chairman.*—You are the Chairman of the Ardrossan School Board in Ayrshire?—Yes, my lord.

4447. Will you read your notes?—Ardrossan parish, which contains the town of Ardrossan and half of the neighbouring town of Saltcoats, is a seaboard parish with a population just under 12,000. It possesses three excellent public schools, and an Academy, managed by the School Board, consisting of an elementary department and a recently-added secondary department, built and equipped to meet modern educational requirements. The School Board is very desirous of keeping abreast of the times, and in regard to physical training has done perhaps as much as could reasonably be expected from it. In the playgrounds of the two public schools where boys are to be found, parallel bars have been provided; the boys are taught the usual military drill, and are, in the higher standards, exercised in the use of dumb-bells and Indian clubs, while the girls in the public schools are taught the bar-bell exercises. In the Academy, military drill—full squad and company drill—is taught to both girls and boys, the sexes being drilled separately. In the lower standards both boys and girls are taught 'free' gymnastics and Swedish drill. In the upper standards (elementary department) the boys are exercised with dumb-bells and Indian clubs, and the girls with bar-bells. In the secondary department the girls in their third (and last) year are taught the use of Indian clubs, the boys being trained to use them in all three years. In addition, boys in their third year are regularly trained in Grecian exercises. At their annual closing exhibitions and at the entertainments they have given, the Academy always seeks to make a special feature of physical exercises. The pupils and instructor are, however, somewhat severely handicapped by the want of a gymnasium, instruction having to be imparted in covered sheds of very limited extent. The School Board does not see its way at present to build one, as the Academy, a young and struggling institution, has been a somewhat heavy

burden upon the ratepayers of the parish. I would suggest that in ours and similar parishes (possessing a population of 10,000 and upwards), where no facilities of the kind exist, a suitable building should be erected by the County Council or by the Imperial authorities, which would serve as a centre for physical culture for all the day schools, and which would be available, through the medium of evening classes, for the youth of the district. Our Academy instructor last winter opened a continuation class of the kind, and, in spite of a total absence of gymnastic appliances beyond those used in the day school, achieved a fair measure of success. He believes that were a gymnasium provided he could attract a large evening class for physical exercises. In my opinion these exercises should be made a compulsory subject in the continuation curriculum, and either facilities such as I have indicated be provided, or a grant sufficient to induce school boards and others to erect premises and provide appliances of their own should be offered by the Education Department.

4456. *By Mr. Fergusson.*—These gymnastic appliances are all outside: you have none under cover?—The only fixed appliances we have are parallel-bars, which are out in the playground in the open air. Yes; we have nothing under cover.

4457. You talk of the 'usual military drill': is your drill all conducted on purely military lines?—Yes, the squad company drill—the usual military.

4458. Is that taken from a military drill book; what book is used in the teaching?—I do not quite understand. Our instructors are all ex-army men, and I understand they teach exactly the same as they would teach the recruits in the drill ground.

4459. That is the military drill book?—The military drill book, I suppose it is.

4460. What, exactly, are Grecian exercises?—Grecian exercises are mostly performed double by two boys. If you will permit me I will show you. Two boys take hold of one another, and as one goes forward the other goes back (*indicating*).

4461. A sort of wrestling entertainment?—Yes; but they work one another backwards; each boy is a lever and support for the other; they are very pretty.

4462. What length of time is devoted to physical training in the elementary schools?—Half-an-hour per week.

4463. You say you would like to make physical training compulsory in the continuation classes?—Yes.

4464. Would you make anything else compulsory? would physical training be the only compulsory subject?—That is the only subject I should think particularly of making compulsory as a special subject. Four subjects, as you are aware, must be taken nowadays to qualify, but a large option is granted; I should make physical instruction the only compulsory subject.

4465. Do you mean compulsory for those who are taking continuation classes; or do you mean that you would make physical training compulsory for every boy between the age of fourteen and eighteen?—Yes, for every boy who attended the evening continuation classes.

4466. You would compel every boy to attend?—No, but in the evening classes I should make that a compulsory subject; they might use their option with regard to the other three subjects, but one of them ought to be physical training.

4467. You would not be inclined to go a step further and say all lads between fourteen and say seventeen or eighteen must take some sort of training, physical or otherwise?—Well, I should on principle—theoretically I should approve of that highly; but of course it would necessitate a very large extension of arrangements, and particularly with regard, I mean, to drill sheds, a gymnasium or something of that kind.

4468. But if it could be managed, you think it would be beneficial?—I doubt very much whether all the boys—all the youth of a district—could be taught, with the present facilities—or, rather, want of facilities—that we possess. We have a volunteer drill hall, of course, at home, which might be utilised for something of the kind, but at present we have nothing in the nature of a gymnasium.

4469. Do you ever hear any objection to the military form of training by the parents?—Not in our locality.

Public gymnasium.

4470. And you would like, if you could get it, a public gymnasium; you think it would be a great benefit?—I think it would be of great advantage, because I honestly do not see how, within reasonable limits of time, we are to provide one at the Academy, because, as I stated, it is a burden on the rates, and I think the ratepayers would resent the idea of a gymnasium being built there.

4471. Your idea would be, one that would be used by the children and by continuation classes, and perhaps by volunteers?—The volunteers have a drill hall of their own.

4472. Can you not get the use of that?—Well, it might be arranged possibly; but I believe the volunteers use it several nights a week for themselves.

4473. *By Mr Shaw Stewart.*—Does your school inspector take a special interest in physical training?—Mr. Lobban? Well, not so far as it has been brought under our notice; he is a very zealous inspector, but, I think, he believes more in head work than in hand work, so far as I can see.

Physical training appreciated by Board.

4474. Then to what do you attribute this special interest taken in physical training in Ardrossan; is it the interest taken by the School Board?—Well, we are rather a progressive community, and we rather pride ourselves in keeping as far abreast of the times as can be expected from a small community. We are rather an ambitious Board, I may say.

4475. You attribute it to the special interest taken by the School Board?—By the Board.

4476. And their knowledge of the good influence of physical exercise?—Purely that, I think, sir.

4477. *By Sir Thomas Coats.*—Mr. Fergusson asked you about the compulsory training of boys between fourteen and eighteen in physical drill?—Yes.

Boys between fourteen and eighteen: drill should be compulsory.

4478. Well, I do not understand whether he quite brought out the information; whether it would be possible to get hold of these boys; do you think it would be possible to make drill for all children from fourteen to eighteen compulsory?—I do not see why it should not be done; just as the Department has raised the school age practically to fourteen. It has always been theoretically fourteen, but lately they have raised it practically to fourteen. I do not see why the school age for physical training should not be raised to eighteen.

4479. You do not think there would be any objection to it—objection on the part of the boys themselves and of the parents?—There would be in certain quarters, no doubt; but I do not know anything that is not objected to. We should be prepared to meet a certain amount of objection. Certainly there is a great cry in the air of militarism, as you know—some people see the thin end of the wedge in military drill—but for my own part I would disregard anything of that kind.

4480. So you think it would be quite possible to make military training compulsory from fourteen to eighteen?—I do not see why it should not be done from a national point of view; if the Imperial authorities require it, surely we are all willing to agree to it.

4481. Have you a large proportion of volunteers in Ardrossan in proportion to the number of the people; have you two companies?—We have one company in Ardrossan, and one in Saltcoats. I do not know what the proportion of volunteers per head is in most districts, but ours is not a large company. We have a company of about 80—I do not know what the proportion is in other places. It is not as much as it might be or ought to be.

4482. *By the Hon. Thomas Cochrane.*—I think you have said with truth you are a very go-ahead people in Ardrossan?—Well, we are; especially as a Board. We are ambitious to do all that lies in our power; we are a very ambitious Board, and we are very anxious to provide every possible facility for the education of the

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district, and to do everything that lies within our power; I think I may say so without ostentation.

Physical training: very advantageous.

4483. As a Board you are really fully persuaded of the advantages to the children of physical training?—As a Board, oh, yes, very much so. It is a cause of great regret and grief to us that we are not able to provide the gymnasium for the Academy; we are honestly distressed about it, and we have many times considered the question whether or not we could dare—in the existing state of our finances—to propose a gymnasium for the Academy. We have come to the conclusion that at present it is almost hopeless—the bulk of us have, at least.

4484. I think there are ladies on the School Board at Ardrossan too?—There was one lady; she has retired.

4485.—She took an active interest in these matters?—Well, not in physical matters; I fancy not in physical drill.

Boys and girls: undesirable to differentiate.

4486. And is the Board persuaded that the training is also good for the girls as well as the boys.—Oh, certainly. We should not dream in our schools of making any difference between girls and boys. In regard to the present exercises, we think they are just as suitable and as necessary for the girls as for the boys; in fact it is an indirect way of benefiting the boys ultimately.

4487. It does good to both sexes?—Yes, undoubtedly.

Health of children.

4488. Are there any weakly children at Ardrossan?—Yes, I suppose so. We have a large influx of outside population. The other day I was in the school with the Inspector, and some question arose about the locality of the children, and he asked those who were born outside the parish to stand up, and between one-third and one-half of the children stood up; they had not been born in the parish at all.

4489. Of course there are neighbouring towns, Saltcoats and Stevenston—they may have been born there and shifted in the course of their work?—They came from a very wide district—from England and Shetland—all over Scotland and the North of England. But as a rule our children are healthy.

4490. The children are very healthy?—Our children are healthy.

4491. But you do not have any who complain that the exercises are too much for them?—I have never heard any complaint of the kind; we have carefully restricted the weight of the dumb-bells, for instance. I believe our average weight of dumb-bell is below that of most school boards. I have heard of schools which use dumb-bells which I consider are positively dangerous to young children—dumb-bells weighing 5 to 6 lbs.

4492. I think the general consensus of opinion is that dumb-bells of a few ounces are quite sufficient?—I believe Sandow says 2 lbs. is the proper amount for a full-grown man to use; we use 2 lbs. in the lower standards and 3 lbs. in the upper. I think those are quite heavy enough myself.

Playgrounds: covered sheds.

4493. In some of the playgrounds at Ardrossan I think you have covered sheds for drill purposes?—We have covered sheds at all our schools, but they are of very limited extent. They could not be utilised as drill sheds except in the most limited form. They would not permit of marching or anything of that kind; they would not permit of movement.

4494. They are just really big enough to shelter the children for a few minutes on a wet day?—That is all they are intended for—keeping them from the rain.

4495. You would like to see that extended?—Yes; they ought to be extended. For the purposes we are discussing they are absolutely of no use to us—as a drill shed.

4496. There is plenty of opportunity, of course, for fresh air at Ardrossan?—Oh, yes, yes; we do not suffer from the want of that.

Status of Academy grants.

4497. *By Sir Henry Craik.*—What is the status of this school that you speak of as the Academy; is it a Higher Class school or a Higher Grade school under the Code?—A higher grade school with an elementary department. Till three years ago it was an elementary Academy. The School Board added a secondary department, and it has now been raised recently to a higher grade school.

4498. It gets a grant under the Code—under Chapter IX. of the Code?—We get the Parliamentary grants in the elementary department, but not in the secondary department; in the secondary department we are entirely dependent on the County Council; we get no grant from the Department in the secondary department.

4499. Then you are a higher class school; you do not come under Chapter IX. of the Code?—We are not a higher class school—only a higher grade.

4500. Then you do get grants under the Code?—In the elementary department.

4501. No, in the higher grade department if you are higher grade school; unless you are a secondary school, you must get grants from the Department?—I think not in our secondary department.

4502. Yes, unless you are a higher class public school you ought to, and you must be under the Code?—We certainly do not get the ordinary Department grants.

4503. Then you are a higher class school?—Well, not properly speaking. A higher class school, I understand, implies one of eight or nine in all Scotland.

4504. Oh, no, no; a great deal more than that?—We are on different lines; I think they are very limited in number.

4505. There are about thirty higher class schools in Scotland under school boards?—Are you not including higher grade schools?

4506. No; higher class schools not under the Code?—These higher class schools have inspectors of their own; they are not inspected by the ordinary inspector.

4507. Are you inspected by the ordinary inspector?—By the ordinary inspector; yes.

4508. Then you may take it from me, Mr Shearer, that you do get grants under the Code, which I am positively certain is the fact; you get grants in the Ardrossan Academy?—We get County Council and technical grants, if you mean technical grants as coming from the Department.

4509. Oh, no, quite apart from these?—I think not; surely not.

4510. You say you are not a higher class school?—No.

4511. Then you are certainly eligible for grants under the Code, and if by any means or other you do not get them, I cannot understand it—you are certainly eligible for them?—I shall certainly take a note of it, but I am equally certain that we get no grants under our secondary department, except the County Council grant and technical grant.

4512. I am quite aware that you get grants from the County Council for technical purposes?—Yes.

4513. I am also aware that you get grants from the Secondary Education Committee of the County?—Yes.

4514. But you must either be a higher class school—in which case you would have got a considerable grant from the Department, not, certainly, less than £300 a year, under the Act of 1898—or else you come under the Code, in which case you would get grants of about £5 a head, whatever the class of school. I want to show you that you not only get a considerable grant from the county authorities, but, one way or another, you must get grants from the Department?—You are referring to the grant £2, 10s., £3, 10s., and £4, 10s. We do get these.

4515. That is exactly what I pointed out; that is under the Code?—Well, it is in a way.

4516. It is just as much under the Code as any other grant under the Code?—Quite so; I did not understand.

4517. Then you do get grants under the Code?—Oh, yes, of course.

4518. Besides these higher grade schools, there are some thirty schools under School Boards in Scotland

which get no grant under the Code at all, which are supported entirely by the School Board fund?—Yes.

4519. In your case you get a grant from the Technical Committee of the County Council?—Yes.

4520. You get a further grant from the Secondary Education Committee of the county?—Yes.

4521. And you get a grant ranging from £2, 10s. up to about £5 a head for all your pupils, from the Department?—In the higher grade, yes; quite so.

4522. The Department lays down certain conditions and instructions; amongst these, that there shall be adequate physical instruction?—Yes.

4523. That is a condition?—Yes.

4524. Therefore, to fulfil the conditions of these grants—these very liberal grants—you must spend a certain amount of money from the local rates?—Yes.

4525. What do you estimate to be the cost of your building in a school like yours—Ardrossan Academy—per head?—The building cost—of the secondary department, for instance?

4526. Yes?—Our elementary school cost us, on an average, £12 to £13 per head.

4527. And the secondary department will cost rather more?—Rather more, yes, exactly; I do not know exactly; it would cost more.

4528. What would be the cost of erecting a gymnasium?—We have discussed the matter, and we understand it could be done for £600, but that would be a limited—a very limited—gymnasium.

4529. We will say £1000?—It would take £1000 to build a proper gymnasium.

4530. What is the average attendance at your Academy?—About 300.

4531. Then the cost of building a gymnasium would be something like a quarter of the amount of building your school—one-fourth or one-fifth?—Yes, it would work out something like that.

4532. Parliament, of course, has not, as yet, consented to aid School Boards in building their premises?—Not directly.

4533. Why should it make an exception in the case of building drill-sheds?—Because this is more of an Imperial, and becoming a national expense. It seems to me to be becoming a question of paramount interest; this question of physical education is becoming more and more important.

4534. It is an important part of the general education of the pupils?—Yes.

4535. And it is one of the conditions under which the Code grants are paid; why should we pay for buildings for this part of the instruction any more than any other?—It would depend upon the assistance we get. I would put it in this way. A sufficient inducement has hitherto been given to encourage educational bodies to educate up to the necessary standard, whereas sufficient encouragement has not hitherto been given to educate up to the physical standard; that is how I should put it.

4536. But these grants, under Chapter IX. of the Code, are only about two years old?—Yes.

4537. You had absolutely nothing until two years ago?—That is so.

4538. Surely, when this increased liberality was shown on the part of the Treasury, did it not entitle Parliament to demand from the local authorities some additional equipment?—Well, I am afraid school boards did not quite see it in that light; they looked upon it rather as payment for work done before than as an encouragement to do anything more; I think that is rather how they looked upon it, as a reward of past services.

4539. *By Mr Alston.*—You tell us that your Board is exceedingly anxious to get a gymnasium?—Yes.

4540. And also that the Academy instructor believes that were a gymnasium provided he could attract a large evening class for physical exercises?—Yes.

4541. When you speak of a gymnasium, do you mean a hall fitted up with gymnastic appliances?—Yes, a complete gymnasium.

4542. Parallel-bars, vaulting horse, ladders, rings?—Trapezes, and that sort of thing.

4543. And you have parallel-bars at present in the open air?—In the open air.

4544. Does your Board think that instruction in applied gymnastics is valuable?—They look upon it, in regard to the Academy at least, as absolutely essential. In such an Academy as ours, we consider our equipment is entirely incomplete without a gymnasium; we are ashamed of the want of a gymnasium. Applied gymnastics.

4545. You mean for the physical improvement of the boys?—For the physical improvement of the boys, and of the girls to a certain extent; the girls for parallel bars, at least.

4546. Are the physical exercises themselves not sufficient?—Well, in these days, I fancy no self-respecting Academy considers itself complete without a gymnasium. It may be a fad, but other institutions of the kind have it, and we feel that we are lagging behind as regards the Academy itself. I mean to say that supposing it could be proved, almost proved, that these physical exercises were not absolutely necessary, we still feel that other Boards are giving them, and that, therefore, we are neglecting our duty, so to speak.

4547. But you have not had it proved to you that applied gymnastics are a necessity of physical education for the boys?—No.

4548. Is it competition and sentiment?—Oh, I do not by any means think so; but there is something to be said for it.

4549. What other Boards do?—It lowers the status of our Academy, I consider; but apart from that, I should like to see a gymnasium at every Board School, for that matter, not from any sentimental point of view, but from a national point of view.

4550. May we take it as a fact that applied gymnastics are not a necessity at all?—I suppose such people may be found.

4551. Then, so far as regards parallel-bars in the open air, are the boys allowed to use them without supervision?—Yes, they are allowed to use them without supervision, certainly.

4552. Is that wise or safe?—Well, really I do not think any danger could happen. They are not very high; they are not more than, I suppose, 3 ft. 8 ins. or 10 ins. from the ground.

4553. Even so, it is generally accepted that applied gymnastics should be always under a skilled instructor?—The instructor instructs the boys at certain times, but they are not in any way closured when the boys are not with the instructor. I mean there is no method of cutting the boys off from them; they are in the playground, and whenever the boys are in the playground they have free access to them.

4554. In the gymnasium—supposing you get it—would you have a competent instructor and all gymnastics practised under proper supervision?—Oh, undoubtedly, yes; but we have a very competent instructor, and it would then, of course, be under the supervision of the instructor. Instructor.

4555. *By Mr M'Crae.*—I think you said that the reason why you had not a gymnasium in connection with the Academy was because of the charge on the rates?—The charge on the rates, yes.

4556. Then you are in favour of a central gymnasium?—Yes, strongly so; I think it should be available for the other schools as well. Public gymnasium advocated.

4557. To be erected by the County Council?—Or the Imperial authority.

4558. But if it were erected by the County Council, it would be a charge on the rates, only you would have a larger area to draw from?—Precisely; yes. Whatever method, it would be a charge on the rates indirectly; but, of course, there would be a larger area.

4559. Then if it were erected by the County Council, would those outside the Ardrossan parish get any advantage from it?—We have scholars coming from the surrounding towns — from West Kilbride, Saltcoats, Stevenston, and Largs; they would, of course, benefit, but not always in the evening continuation classes; it would not be available for them all in the evening continuation classes.

Mr C. J. Shearer. 26 May '02. Continuation Classes.

4560. But you think it would be a fair charge on the general county rate all over?—I think so.

4561. Then with regard to the continuation classes; is the instruction given on a part of an evening devoted to the other subjects, or do they have a special evening for physical training?—As I mentioned in my statement, last winter our instructor at the Academy tried the experiment of a class running concomitantly with the other classes; but he suggests that it would be much better to have it on a separate night—a free night quite apart from the ordinary nights, that is to say, that on the evening when he was to have his physical exercises the pupils came from one class to another—came only for a portion of the time; he wants them to come fresh to him for a longer period—for two hours in one evening; he would prefer that.

4562. How many nights a week do your evening continuation classes meet?—They meet four nights a week.

4563. *By the Chairman.*—Have you any experience of seafaring people?—In what respect; we are, of course, a seaport; in what respect do you mean?

4564. Well, with regard to boys after they leave school; I mean do many of them go to sea?—Oh, yes, I see what you mean; not so many as one would expect. As far as I know not a great many of our boys go to sea; not a great many; we are not a producing town for the sea. Saltcoats—our neighbouring town—once had a great reputation, and, I believe, still has; but in the town of Ardrossan, so far as I know, not many boys make the sea their profession; so far as I know, I do not hear of many going.

The witness withdrew.

Adjourned.

TENTH DAY.

Tuesday, 27th May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M^{c}CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr JAMES TURNBULL, examined.

Mr J. Turnbull. 27 May '02.

Alloway School: description of facilities, etc.

4565. *By the Chairman.*—Have you got a copy of your notes; will you please go through them?—I have been twenty years in the service of the Alloway and Ayr Landward School Board as Headmaster of Alloway School.

In 1895 a new school was erected with accommodation for 270 scholars in four classrooms, with central hall, gymnasium, soup kitchen, etc.

There are at present 229 names upon the registers, and the average attendance for the year to date is 204.

Class of children.

The children belong to the agricultural class, to coachmen and gardeners, and the majority of them have upwards of two miles to walk to school. I had no special training for physical work, but when the new school was nearing completion the subject was beginning to be recognised as an essential part of the curriculum of every well-organised school, and so I prepared a scheme of exercises from various books upon the subject, and these were executed out of school hours.

Teachers.

I am assisted by one male and two female certificated teachers, each of whom undertakes all the subjects of study (including physical training) belonging to his or her own class. They also had no special training for the work.

In the central hall, which measures 66 ft. by 12 ft., the physical work is done when the weather is unfavourable for doing it in the playground. Here also during five months of the winter time soup and bread is supplied to the scholars—the record number partaking in one day being 170. There are two large, well-drained playgrounds, in which, when the weather is suitable, the exercises are done. Games in their season—cricket, football, baseball, etc.—are entered into with much spirit, the assistants and myself taking an active part with the children—a practice which, though depriving us of a fair amount of our spare time, has a most beneficial effect upon the tone of the school. Games.

The gymnasium is situated midway between the boys' and the girls' playgrounds. It measures 30 ft. by 20 ft., and is fully equipped. Gymna

When physical training became a part of school work necessary to earn higher grants, the School Board arranged for the assistance of a military expert. Since this plan was instituted there have been three military physical instructors, each with a course of his own—a circumstance not very agreeable to the regular staff. The present one is Sergeant Edwards, of Ayr Barracks. He visits the school one hour every week, puts the classes in turn through their exercises, sees the teacher do the work, and checks mistakes. The teacher then carries on the work till the next visit of the sergeant to that particular class. Expert supervi

Boys and girls take the same exercises. The former have three hours a week, the latter one. The infant classes have half an hour, with odd minutes between lessons. Only those children who procure a medical certificate are exempt. (I have here a copy of my time-tables to show you.) Boys a girls: allotte

The training is divided into three parts—drill, physical exercises, and gymnastics, the last-named being optional. (Drill takes about a quarter of the time.) Divisi trainin

All the exercises are according to the Aldershot cur-

riculum, with, besides, special exercises for dumb-bells and bar-bells. The work for infants is slightly modified.

Such is a sketch of the physical training carried out in Alloway School, and I have no hesitation in saying that the benefits direct and indirect, derived are manifold.

The children take great delight in the work, and their parents are quite satisfied. The weak ones become stronger, the slow ones smarter, the slovenly are braced up, and the general health of all is improved, the whole having a telling effect upon the attendance. I should like to add a few general observations.

All teachers should receive a special training for the work and be examined by an expert.

The school staff should undertake the work under the supervision of a visiting instructor. The instructor could visit several schools in a district, and thus expense would be lessened.

Physical work should be done in the open air. The reasons are obvious.

There should be a universal system, so that the children of migratory parents could carry from one school to another the exercises, just as they carry the rules of grammar and arithmetic.

The other subjects of instruction do not suffer, but are benefited by the extra time devoted to the subject.

The list of subjects (necessary) is surely complete. The latest—free-arm drawing—is but a branch of a subject already on the list.

Not until the exercises are executed in perfect style should there be a musical accompaniment. It is quite impossible for a teacher to keep an eye on the movements of, say, fifty scholars, and at the same time play an accompaniment. For precision and accuracy the work is best done by numbers.

It would be a great advantage if the children were graded and taught according to their size and strength, but where there are two or three teachers this plan would cause endless disturbance of classes and lessons. Besides, teachers know their own flock best.

Children who are underfed are quite unable to do mental work, much less physical. It is the duty of every teacher who has the welfare of his pupils at heart to see that ample provision is made in the way of a sufficiency of proper food and clothing, and that cleanliness exists. Cases of neglect should at once be reported to the proper authorities.

Physical training should be made a branch of the work of the continuation school.

Lads from fourteen to eighteen years of age should be compelled to join a cadet corps, where, instead of the drudgery of everlastingly drilling, the attractions—all of a physical type—might be gymnastics, cross-country harriers, games, rifle shooting, etc.

These, in my opinion, if properly carried out, will make our young men fit to uphold the nation's welfare.

4566. *By Mr M'Crae.*—Was the gymnasium erected by the School Board?—It was not, sir.

4567. How did it come into existence?—By my efforts in raising money. When the school was erected and physical training, as I have said, came into existence as a subject, I went round friends in the locality; we have many good friends; and I was able to collect the sum of £229 and, by means of school concerts, to furnish the gymnasium.

4568. It was all done by voluntary subscription, really?—The School Board gave me a contribution; I forget the amount now.

4569. I notice that you give the boys longer exercises than the girls?—That is so; the reason of that is the girls have three hours' sewing, and what are we to do with the boys during the sewing hours. The boys must get more of some subject than the girls; we might give them arithmetic, history or grammar, but we give them physical work.

4570. I notice you are in favour of a universal system?—Yes; it is a very great disadvantage for a boy coming to my school from another school knowing nothing about the training; his exercises—if he has any—are likely to be different from the exercises we go through, and therefore I would have all schools to take the same system.

4571. Then your view would be that the Central Education Authority should have a scheme?—Yes.

4572. Drawn up, of course, in consultation with medical experts?—That is my opinion.

4573. And that that should be applicable all over Scotland?—All over.

4574. Would you allow any deviation from it at all?—I should certainly say that all essential work should be tabulated by the Board, and then, if the teacher liked, he might introduce a little extra work, but I would certainly have one system.

4575. Have you anything to do with the continuation schools?—No, I have nothing to do with the continuation schools.

4576. You could not give us any information with regard to them?—I am sorry I cannot. All I know is that in the town of Ayr nothing is done in the way of physical work.

4577. Not in the continuation schools; are you sure of that?—Not in the continuation schools.

Cadet corps for lads from fourteen to eighteen: compulsory.

4578. I notice that you say the lads from fourteen to eighteen should be compelled to join cadet corps?—Yes, I would make it compulsory.

4579. Do you think that Scotland is ripe for such a scheme?—I know that a great many of our young lads in the town of Ayr are just loungers, and I think it would be far better for them if they had some kind of compulsory physical recreation to take up their time.

4580. Do they go direct to employment after they leave school in your district?—In my district, if they do not attend the secondary school in the town of Ayr they go direct to employment.

4581. There is no interval between?—There is no interval between.

Uniform system.

4582. *By Mr Alston.*—I notice in speaking of the universal system, which you desire, you say you prepared yourself a scheme of exercises from various books?—Yes, sir.

4583. How many books did you consult, for example?—I had Chesterton's book for one; I had a Glasgow book, I cannot at this moment tell you its name; at the time this physical work came about, there was a whole host of books upon the subject, but I was advised to get Chesterton's book. I am sorry I cannot tell you the name of the other.

4584. You consulted a good many?—Three books at least.

4585. Did you form an opinion as to which was the best for your purpose?—No; I just picked up a series of exercises which I thought would be best for the benefit of the children.

4586. Without consulting medical opinion?—Without consulting medical opinion.

4587. Do you know the Swedish drill at all?—I do not know it; I have never seen it; I have only read about it.

4588. You are quite satisfied that it would be a manifest advantage to the schools if one system were adopted?—Yes, I am quite of that opinion.

Music undesirable at first.

4589. You speak of musical accompaniment to the drill; on what account do you object to the musical accompaniment?—As I said, I would have the exercises done by word of command. When there is a musical accompaniment, unless the instructor is free to move about and watch the movements, the work is likely to be slovenly done, and therefore I would object to a musical accompaniment until everything was perfectly correct.

4590. You say so?—Yes.

4591. Because the instructor could not at the same time play?—Oh, no.

4592. But of course you could get a pianist?—Yes.

4593. Very often young ladies lend a hand in these matters?—Certainly; I sometimes ask a senior girl.

4594. You are quite satisfied that the drill should be perfectly learned without a musical accompaniment?—Certainly.

4595. And only then should they be treated to music?—Yes.

Mr J. Turnbull.
27 May '02.

4596. Have you seen the defects of the musical accompaniment?—Yes; I am of opinion that if a lady sits down to play with, perhaps, forty-five children in the hall, it is quite impossible for her to play and at the same time keep her eye upon her pupils.

4597. Then as to the gymnasium; it is fully fitted up, I see; fully equipped?—Fully.

Gymnasium: supervised.

4598. Then the exercises in the gymnasium; are they carried on under supervision of any kind?—Yes, there is the sergeant who comes from Ayr; he comes, as I have said, once a week, and he is in the gymnasium part of the time, and no exercise is given unless he or I am there.

4599. No boy could injure himself?—No boy is allowed in the gymnasium unless I am there.

Military drill.

4600. You do not refer to what we have been calling distinctively 'military drill' except in your second last paragraph, where you refer to cadet corps?—Yes.

4601. Is there any drill of the military kind in the school?—It is all military drill, this drill we go through; it is squad drill—forming fours, front forming, right forming—that is the drill with this unfortunate term attached to it.

4602. Without the use of any arms?—Without the use of any arms.

4603. Or with the officers or non-commissioned officers?—Without them.

4604. When you speak of cadet corps, all that is implied?—Yes.

Continuation Classes.

4605. Then you think the military drill in itself—the mere movements in military drill—would not be sufficient attraction for the boys in continuation classes?—Well, I do not know; you might repeat your question, please.

4606. The military drill in the mere formation of fours or marching, such as you do in the school, suppose you in the continuation classes introduced that in rather a fuller form, would it be sufficient to attract the boys, not of course under compulsion, but would it attract them naturally?—I am afraid it would not.

4607. You therefore think the cadet corps would be the greatest attraction, with all the subsidiary matters which you name here—namely, gymnastics, cross-country harriers, games, rifle shooting, etc.?—So much time is given nowadays to football and other sports, which are entirely outside any system except a club, I think that these might attract young men.

4608. Is there any school near you where a cadet corps could be raised?—In the town of Ayr there is a secondary school.

4609. In your neighbourhood is there any feeling against military drill of any kind?—I have never heard it expressed.

4610. Not among the general public?—No.

4611. *By Sir Henry Craik.*—Neither you yourself nor your assistants have had any special training for this work?—None, sir.

4612. Do you do it solely from studying it in a book?—Solely from the book and what I had seen.

4613. You have not been a volunteer officer?—I have not.

4614. And the assistants, how did they learn to do it?—Principally from me and from the military men who trained us; we have had three military men.

4615. What did they do; they had classes?—The military men?

4616. Yes?—Yes, they came; for instance, the military man comes to-day, he has my class, spends the whole hour, goes through the exercises, and shows me what I am to do during the interval till his next visit. That is the training we have had.

Teachers' classes under Art. 91. (d).

4617. And there have been no classes for teachers in the subject under Article 91 (d) of the Code?—There have been classes in Ayr.

4618. For physical drill?—For the teachers?

4619. Yes?—From the Aberdeen Training College, I think it was.

4620. And these were done under the Article of the Code?—I think so.

4621. And received grants?—I could not say. You understand me. It is on the Aberdeen system; there is a physical training college there—Cruden's.

4622. I quite understand that, but I rather wanted to know what provision there was for training teachers and how far that was used. I do not refer to the institution or the system, but rather to the grant that is given for it?—Well, I do not know that there is any grant given; the teachers paid so much.

4623. The teachers have paid for it?—I think so.

4624. Then you did not know that the Code did allow classes to be formed for teachers?—Oh, yes, I knew that, but it is only within the last two years that there has been such a thing in Ayr.

4625. Yes, but it has been even in the last two years; whether it is within the last two years or not you have means now of getting your teachers trained through the Code?—Yes. Yes, I know that.

4626. What I want to know is, has use been made of the Article of the Code in training teachers for the physical drill?—In the case of Ayr it has been; they came from all the surrounding districts.

4627. Then you would send your assistants to such a class?—I would not think of sending them when we have got the man at home.

4628. Oh, no; but if there was a new man?—When we have got a man within our own doors—and a splendid man—it is like private tuition.

Game playg and fi

4629. With regard to games, have you given them any instruction in games?—Oh, well, we are cricketing regularly. We have a very large playground, as I have said, and we have a field—a very nice field, where games are carried on by the boys—and the girls are not neglected.

4630. Was that field provided by the School Board?—Oh, no.

4631. Voluntary contributions?—Yes.

4632. *By Professor Ogston.*—There is one part of your evidence that is not very clearly expressed, if you will forgive me: 'And so I prepared a scheme of exercises from various books on the subject, and these 'were executed out of school hours': was that the preparation of the scheme that was executed out of school hours, or the exercises?—The exercises were done after school hours—after four o'clock.

4633. You still do so?—Oh, no; it is part of the work upon our time-table now.

Chil medi exen unde very

4634. How many medically exempt children have you?—I do not believe that in the five years there have been more than half a dozen.

4635. Out of your 229 annual pupils?—Yes.

4636. How many children are underfed?—In my case, a very, very few; I could put them, perhaps, at less than a dozen.

4637. Out of 229?—Yes.

Teac

4638. *By Mr Fergusson.*—Though you yourself and your assistants received no special training, and you have not found any disadvantage, still you think that for the schools of Scotland it would be necessary to have some special teaching for schoolmasters?—I do.

4639. You do not know much about the classes that have been carried on for teachers?—It is only hearsay; I have only heard about those classes.

4640. Did hearsay say they were satisfactory or unsatisfactory?—Well, it had not a very high opinion of them.

4641. And they have not been much taken advantage of. You tell us that before your new school was built you did not go in for much physical training?—For the pupils?

4642. Yes?—No, we had no room.

Ph tra ben

4643. Since 1895 you have done a good deal and an increasing amount. Could you tell us whether you see any effect on the children; are the children in any way better than they were before 1895, when you did no physical training whatever?—Well, I really think that they are sharper and stronger. If we may judge by their strength, at the end of a term they can do their exercises with much more vigour, and when taken to the gymnasium a boy who could not lift himself off the floor will now pull himself up to his chest four or five times.

4644. But has that had any effect on their general health; do you think you can see an improvement; do you think that it enables them to do their book work better?—Well, I think it certainly freshens them up. During a lesson in grammar or geography we sometimes stop and have a few exercises. Even that itself does a good deal to brighten them up.

4645. And interests them generally in their work?—Yes.

4646. You take three hours off your school day for the physical training of the boys, and you think that it certainly has not lowered the standard of your book work?—I am quite sure of it.

4647. My lord, as we are so often told that it is impossible to spare more than half an hour, and this witness speaks to three hours, and the point is a very important one; may I ask that the last report by His Majesty's Inspector on this school be read by the Secretary?

By the Secretary.—'This school is conducted on 'thoroughly sound lines, and in every department 'the children are receiving a training of the highest 'educational value. Faultless discipline is maintained 'without effort, and the whole tone of the school is 'admirable. The instruction keeps well in view the 'importance of training the intelligence of the children, 'who in consequence show in all their work great 'readiness and resource. The form of the written 'work is particularly fine. In some of the junior 'classes greater speed in summing might be secured 'by systematic drill in the arithmetical tables. Draw-'ing is very good. Singing and needle work are 'taught with marked success. A specially pleasing 'feature is the attention which is given to drill and 'gymnastics, which have been developed to such an 'extent as to give the school a unique position in the 'district.'

4648. *By Mr Fergusson.*—I take it from His Majesty's Inspector's report that it seems to say that the three hours devoted to physical training has had no bad effect on the book work of the school?—Oh, I know from experience that it has not.

4649. And putting it farther, your scholars have to compete for bursaries and in other ways with the children of all the surrounding districts, and the burgh schools; what are your results there?—The results in these competitions, which are open to the greater part of South Ayrshire and to the Ayr Burgh schools, are that we always hold our own; indeed, we have gained two and sometimes three bursaries every year, and twice topped the list. In an examination held during the past month we took the first and third places against all the town schools, and I can safely say that we have not a bit gone back because of the amount of the physical work. I may say further that the children have no home work. I do not give them home lessons to do; the work is all done in school, because I think the children who come long journeys ought to spend their time in play, and then I find them much better when they come in the morning.

4650. And still you can get these results?—And still I have got these results.

4651. You are not afraid to compare with anybody else?—No.

4652. Then as to the games; you say you look after their games—'a practice which, though depriving us of 'a fair amount of our spare time, has a most beneficial 'effect upon the tone of the school.' I suppose you could hardly expect everybody to do that?—Oh, no.

4653. But is there any plan you could suggest by which more attention might be given to teaching the children how to play games properly?—Well, if the teacher is an enthusiast he will find a means of entertaining his children, taking an interest in the games, and teaching them properly; there are several ways he can do it. I get the boys to draw a plan of the playground on the blackboard showing the various positions in cricket. Likewise the girls; they have drawn a plan on the blackboard showing where they stand when playing rounders.

4654. You are not afraid to devote some of your school time to showing them these things?—Oh, not a bit; we even started them during the winter time with ping-pong. Not during school hours, of course. We try to interest them in all work.

Curriculum.

4655. We have been told once or twice of the overcrowding of the curriculum, which, I see, you refer to; have you any spare time; could you take on any more subjects?—No, I could not; you have them all here. Reading, writing, arithmetic, mental arithmetic, needlework, singing, history, geography, nature knowledge, grammar and analysis, poetry, drill, drawing, spelling, Bible and composition. There is the whole collection here.

4656. But still you will not say that it is overcrowded at the present moment?—I have got enough, and I wish no more; so far as we are concerned, we are full up.

4657. You distinctly say that each boy gets three hours—because in asking a previous witness about that I said: 'I suppose the time-tables would show?' and he said, 'The time-tables are misleading.' Now, you have got your time-tables there; do they show what every class is doing at every moment of the day?—Yes, you may come, and you will find everything going on according to the time-tables; any divergence is entered in the log.

4658. A time-table that is misleading is not a time-table at all?—I cannot see that any time-table should be misleading; it is against the regulations.

Feeding.

4659. Now one question about the feeding. You say there are not many of your children who are underfed. The children of the ploughman class and farm labourers are probably your poorest?—A few of the farm labourers, especially that migratory population which is continually on the move.

Meals given.

4660. Well, quite apart from that, you carry out a system of giving broth and bread to your children during the winter months?—For five months.

4661. Not entirely because they would be underfed if you did not give them that, but you find that it is convenient. The parents like it; it is a convenient way of feeding the children?—Oh, yes, and in a great many cases it is the best food they get during the day.

4662. The best meal of the day. Well, do you think that has any marked effect on their general condition?—Oh, yes; we can get more work out of them.

4663. You can get more work out of them?—I am quite sure of that.

4664. Both mentally and physically?—Yes; they get a good basin of the very best soup—as much as they can take—and bread.

4665. And you see the benefit; you are sure of it.—I am quite sure of it.

Boots.

4666. Just one other matter. Do you find any difficulty with the boots—the country boots that your children wear—doing some of your exercises, tiptoe exercises and so on?—No, I find no difficulty in that. The biggest difficulty occurs during the summer months, when the children come barefoot.

4667. You do not like bare feet?—Not in the playground. The playground has been covered for some time with granite chips. It is very sore upon the feet; but when we take them to the hall, then it is all right.

4668. We were told that the boots were so stiff that it was impossible to get the ankle-work and the foot-work that was desirable?—I have never noticed that, nor has the sergeant said anything to me about it.

4669. But still you have shoes for the purpose?—We have shoes for the purpose. We have gymnastic shoes, and we have strong leather shoes which the children wear on wet days if they come with wet feet.

Financial aid: concerts, etc.

4670. If you want to provide shoes or anything of that sort, have you not found that there is no easier way of getting money than by the aid of the children's concerts or other entertainments given by them—you can always make money that way?—That is the way it has been done in the past.

4671. Do you think it would be useful to put ideas of this sort before School Boards; not in the way of making anything compulsory, but simply suggesting

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matters to them which have been found to work well in other places, but which they may never have thought of. Do you think this would be useful?—It would certainly be useful.

4672. Is this way of raising money for school purposes much used?—I know of one—the neighbouring schoolmaster, in Dalrymple, does the same thing; he gets up entertainments for the purpose of providing dumb-bells, bar-bells, etc.

4673. It is not necessary that everything should be put on the rates?—Not at all.

4674. *By Mr Shaw Stewart.*—You have had considerable experience of both games and physical exercises in your school?—Yes, sir.

Games *versus* physical exercises.

4675. I would like to ask you this; I quite understand that games are very good for the tone of the school, but do you consider that physical exercises are more valuable for the development of the weakly boys than games, if you have to compare the two?—I would certainly advocate physical exercises, because in them there is a regular course gone through for every part of the body, the exercises are drawn up with this aim in view, whereas in games they do not do that.

4676. And the least strong boys in games may perhaps not be taking any useful part at all?—None whatever—sitting aside.

4677. So that in your view this Commission ought to pay particular attention to the value of physical exercises?—Yes.

4678. Regularly carried out?—Regularly carried out.

Physical training most essential.

4679. *By Sir Thomas Coats.*—I should just like to ask one or two questions to emphasise what you have already said about the physical training of children: do you consider physical training essential to the health and welfare of the children?—I certainly do consider that physical training is for the health of the children, and if their health is improved, surely it should combine with their welfare.

4680. Then you would put physical training first, that is, that you would make that an essential part of the training; whatever else must go, you would devote an adequate amount of time to physical training?—I would, sir.

4681. Do the children remain in your school for a considerable length of time; I mean the same children; do you bring them on from the infant department until they leave school, or are there many changes?—There are a great number who remain from the beginning to the end. There are a few who pass out of our hands every year, but the children that do remain we know perfectly well what an improvement has been wrought upon them by the work. Between forty and fifty come and go in the year.

Progressive system.

4682. Then by your system of training do you carry the children from one standard to another, that is, in the higher standards, do you give them an increased and altered system of drill so as to bring the training on from the infants to those who leave?—The infants do exercises without appliances; the stronger boys—the boys about to leave school—work with dumb-bells, gradually increasing the weight of the dumb-bells and the bar-bells.

Girls and boys should receive same amount of training.

4683. If you had time you would give the girls the same amount of physical training that you give the boys; you see the sewing takes up their time?—Yes.

4684. Do you consider it beneficial to the girls to give them the same amount of time that you give to the boys?—I would certainly consider it beneficial to the girls.

4685. In the different subjects in your time-table that you ran over, I do not think I heard you say anything about cooking; do you give cooking in the schools?—No, we have no cooking.

4686. Might I ask if the girls in your school get an opportunity of learning cooking in their homes?—Well, I would certainly say they do.

4687. The reason I ask is this, in manufacturing towns girls are married direct from the factory, and have no training in cooking, except what they get at school.

4688. And no sloyd work?—None.

4689. Regarding the underfed children, you say they ought to be looked after, but how would you look after these children. We know that you do it in your own school; there is a system of doing it; but in schools generally, say in town schools, how would you suggest that these poorly-fed children should be looked after?—Well, were I an assistant and found a boy in my class whom I knew from his appearance and from his conduct in his daily lessons was underfed, I would report that to the headmaster. Surely it would be the headmaster's business to report the matter to the proper authorities, such as the Parish Council, that they may enquire into the affairs and see if this child was being sent out improperly fed.

4690. That is trying to compel the parents to feed their children properly?—That is so.

4691. You think it is more neglect than the want of the necessary means?—Yes, I think so.

4692. Then with regard to the evening classes, you say you would make physical training compulsory from fourteen to eighteen, but is that all the training you would advise in regard to evening classes; would you not make them take up other subjects as well, and make physical training a part of the course?—Oh, certainly, I mean that.

4693. You mean that. I did not quite understand.

4694. And you think there would be little difficulty in inducing the children to attend evening classes?—Oh, there would be a difficulty.

4695. Would that be on the part of the parents or the part of the children?—It would be on the part of the children, I think. I am afraid the children——

4696. *By the Chairman.*—You said you thought the children would object to that; do you find the children are very glad when their school time is over?—Oh, no.

4697. I rather gathered that you made it so pleasant for them that they were sorry to leave it?—They have before now asked me to spend the time in the gymnasium rather than have a half-holiday. They are very fond of the gymnasium.

4698. You have not been asked any questions about work on Saturday; how do you think that would answer?—On Saturday?

4699. Well, in any sort of shape, that is to say, interfering with the Saturday in any way; it would be very unpopular, would it not? I am afraid of that; do you mean who would carry it?—The teacher? the teacher to be employed on the Saturday?

4700. That would not be popular?—Oh, no, we must have our Saturday.

4701. And the children say the same, 'And we must 'have our day'?—Well, no, oh, no. If the children were taken in hand by someone who would interest them in play, for instance, in games or physical work; I know perfectly well I could get many of the children to come to me on Saturdays.

4702. Otherwise, speaking seriously, you think that it would be very hard on the teachers if their holiday was infringed upon in any way?—Yes, I think so.

4703. It is infringed to a certain extent, that they have to get their own teaching; they have to learn training sometimes on Saturdays, have they not?—Yes, that is the case; a number of them attend classes for woodwork, and for free-arm drawing, etc.

4704. That is one thing, and this would be quite another thing?—Quite another thing.

4705. And you said you did not give your children anything to do at their homes; why is that?—Because what they do at their homes is very often done by some other body, and a great many of them have not a proper place to do it.

4706. But you are very singular in that practice, are you not?—Yes, I know we are.

4707. Why do other teachers give the children work to do in their homes?—I cannot say, unless it is because they are unable to overtake the work in school.

4708. But it is almost universal in Scotland, is it not?—Well, I would not say that.

4709. Do you know any other instance?—Where they do not go in for it?

4710. Yes?—I could not say.

4711. Do you know or do you not know?—I do not. You understand what I mean when I say no home work. If I give a child a short exercise to write down it will only take that child five or ten minutes to do the work. In some schools they give them as much as keeps them till ten o'clock at night.

4712. And after they have had their walk of two or three miles?—Two or three miles. In my case it would be perfectly ridiculous. Some of these children leave home at seven o'clock in the morning, and they do not return until six at night; they are perfectly done when they reach home, and could do no more work.

4713. When you say they are perfectly done, are they all the more done by having had physical exercises in school?—No, I do not say that. We give them a great amount of mental work, keep them busy all the day long, and then they have the long walk home. When the children leave school they take out their snack—their bits of bread—which is a good thing for them; the great majority of them do this when they leave school at four o'clock.

4714. What is the custom with regard to flitting—farm servants—do they flit half yearly or yearly?—Generally yearly.

4715. Does not that disturb your school very much?—Very much, that is one of the greatest drawbacks to my school, a certain portion of the population is continually moving.

4716. That is one of the principal reasons why you want a definite curriculum of physical training for every school?—Yes.

4717. A standard?—A standard.

4718. *By the Hon. Thomas Cochrane.*—I think Alloway is rather specially situated?—Yes, I must say we are specially situated.

4719. You have got a good many well-to-do families all round?—Yes, that is so.

4720. Perhaps they are gardeners and coachmen that you alluded to as sending their children?—Yes.

4721. We must not particularise too much from your experience?—No, it would be a mistake.

4722. They are the children, the sons and daughters of the gardeners and coachmen: they are a higher class—a little more intelligent than the agricultural labourers?—Oh, they are, yes.

4723. More ready to assimilate knowledge, and when you say you do not give out any home work, do you think that in some instances the fathers and mothers do not give them a sort of coaching at home?—Well, I do not think that there is much coaching at home.

4724. I was rather asking from the experience of my own coachman; I know he tells me—he is a very well-educated man—that he gives a little private teaching to his children when they come home?—It depends on the school they attend. It may be the work of a secondary department, and they are not able to overtake all the work in school.

4725. But we cannot take you as quite a type of an ordinary Scotch country school, the class of children that you have?—Oh, I think you might; a country school in Ayrshire.

4726. I see that you recommend that there should be some fixed scheme of drill and training; you think that would be an advantage?—I think so; I am quite sure of it.

4727. Do you recommend any special scheme?—I have no special scheme to recommend.

4728. Have you seen the manual of drill by Chesterton—his latest?—I have seen one of his books some time ago.

4729. This one (*showing*)?—No, I have not seen that.

4730. The advantage you derive from that would be that the course of training would be continuous in school?—All over—continuous.

4731. And you see no drawback to it; that any individual school might require a different system of training?—No, I do not see it; I think there could be a system that might be adopted by all schools.

4732. A uniform system?—I think so—a great amount of it can be done in the school, in the classroom.

Curriculum.

4733. There is one paragraph here that is not quite clear to me; the list of subjects is surely complete?—Yes, it is surely.

4734. Is that a euphemism rather for overcrowded?—I mean to say it is complete, sure enough, without any more. Some would like to introduce Cooking, others Woodwork.

4735. In the marginal note you put 'overcrowded 'curriculum'; you go a step further in the marginal note?—It was in regard to the talk of so many new subjects being added. That is why I put 'overcrowded' in the marginal note. So far as we are concerned we are not overcrowded.

4736. You were not overcrowded?—I am not overcrowded; you see there is no Cooking in our school and no Woodwork.

4737. You read out a good list of subjects which you taught in your school, but it seemed to me that some of the items really were only parts of the ordinary instruction?—Quite so, that is right.

4738. For instance, reading, prose and poetry, grammar and composition, would all come under the proper teaching of English?—Yes.

4739. You could not teach English without these subjects?—Oh, no.

4740. From the results you have obtained, your curriculum does not seem really to be overcrowded?—No.

4741. You think the children are quite able to learn all that you have down in the time?—Quite able.

Grading of classes.

4742. There is only one other question, the latter part of which rather answers the former of it, that is, the grading of classes. You think it would be of great advantage if the children were graded?—Yes.

4743. Then, I think, the objections you add at the end, 'it would cause endless disturbance of classes and 'lessons; besides, teachers know their own flock best'?—Well, the sergeant would like to have them all in the class doing physical work of the same height; he would like to put this one into the next class, and so on, but that would interfere very much with the class work, and upset all the arrangements.

4744. You are satisfied with the ordinary class grading?—Yes, and if I find any particular child unable to get on with the work of his own class, I give that child less work to do.

Teachers: ordinary staff *plus* experts.

4745. And you think the advantage on the whole is rather in favour of the children being taught by their own teachers?—Yes.

4746. Supervised by a qualified instructor?—That is my opinion.

4747. That they take a greater interest and obey their own teachers probably more promptly and better?—They do.

4748. I should only like to ask you further whether you have had any technical classes for technical instruction?—None in my school. You see we are within two miles of Ayr, and if any wish they may attend the science and technical classes there. Some of them do attend them—boys and girls who have got the Merit Certificate.

4749. They go to learn cooking, some of the girls?—No, I have no girls going to the cooking.

4750. Dairying?—No.

4751. I forget what technical classes are available at Ayr?—It is under the County Council. There is dressmaking, I think: and there is cooking, I am sure, but beyond that I do not know.

4752. There is not much being done?—No, I do not think so.

4753. *By Mr Alston.*—In answer to Mr Fergusson, you told us that with the very full amount of physical training, such as you are able to put into your school week, there was no interference with the other branches of study, that they were not any the worse of the con-

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siderable amount of physical training which you have been able to carry out. Would you go further and say that the children were the better of the physical training in regard to other studies?—Yes, I should go further and say they were the better for it.

4754. Brighter?—Brighter, yes.

4755. More alert?—Smarter in every way.

4756. And amenable to discipline?—Yes.

4757. That also improves the other branches of the school curriculum?—I am quite sure of it.

4758. *By Mr Fergusson.* — I do not know if you quite understood, or whether I quite understood, when Mr Cochrane was asking you whether Alloway was a fair example of a school. It is true, as you say, that there are a large number of coachmen's children and gardeners' children, and so on; but is it not really a very good example, because you have every class of child that you can imagine. You have gardeners and coachmen, farm labourers, farmers, factors—you have got every sort of child, have you not?—The only one we want is the minister's.

4759. You have got an experience of every class of child?—Yes.

4760. And therefore you can form a very fair judgment?—Yes.

Medical inspection: unnecessary.

4761. There is one other point that I do not think you were asked, as to medical supervision; would you desire any medical supervision of your school; that it should be examined medically at the beginning of your school time or any other time?—So far as I am concerned I have never seen any reason that we should.

4762. You think that with your experience and the female teachers, and all accustomed to children, you can see pretty well if there is anything wrong?—Yes, I think I consider myself quite able to notice when anything is wrong.

4763. Would you object to a doctor looking at your children at the beginning of every school term?—Not at all. In our case it would be superfluous, as the parents are ever ready to call in medical advice.

4764. Then what about the school premises; would you like the sanitary inspector to inspect your school premises at intervals; would you think it was a good thing generally?—I have seen school premises which were not in a very pleasant condition, and would have been the better of a visit from a sanitary inspector.

4765. Within your knowledge school premises are not always as sanitary as they should be?—That is so.

4766. And you see no reason why the sanitary inspector should not look at the school as well as at the pig-sty?—But if the teacher is doing his duty——

4767. But that is an 'if.' You think it might do good in some cases?—I do.

The witness withdrew.

Mr A. Andrew, B.A. Lond.

Mr Archibald Andrew, B.A. Lond., examined.

4768. *By the Chairman.*—You are headmaster of Ochiltree Public School?—Yes.

4769. Just read through your notes, please, will you?—I. The system of physical training obtaining in Ochiltree day school is that of Colonel Cruden (Aberdeen), with the use of dumb-bells, bar-bells, and Indian clubs to music (vocal and instrumental).

Cruden's system.

II.—Continuation Classes.—Evening classes have been held here, but not continuously, and there was no physical drill given.

Suggestions.

The following exercises suggest themselves as appropriate in a system of physical training.

1.—Day Schools.

(*a*) Dumb-bell, cross-bar, Indian club and bar-bell exercises, and the skipping rope.

(*b*) Football, swimming, cricket, and tennis.

2.—Evening Continuation Classes.

(*a*) Fencing.

(*b*) Football, swimming, etc.

(*c*) Formation of branches of Boys' Brigade.

It may be observed that in a system of physical training, all the above exercises could not be introduced in schools in country districts.

Under any system there should be sufficient accommodation and efficient and systematic instruction.

Schools in country districts are placed at a disadvantage for variety of drill and physical culture compared with the larger schools in populous centres.

Students should undergo a systematic course of training, together with military drill, during their period of training as teachers.

In the event of School Board areas being extended, country schools would be benefited by the appointment of a competent instructor and school officer for the district.

As an aid to all-round development, I am of opinion that it is desirable to form rifle clubs in parishes or districts, and that every youth be required to attend meetings for practice in shooting and for drill on the volunteer or other similar system.

Ochiltree: description.

4770. For the convenience of the Commission, would you kindly state what sort of a school yours is, what your average attendance is, and what class of children attend it; what sort of a school to begin with. Is it a country school?—It is a country school.

4771. And the average number in attendance?—The average number in attendance last year was 127 or 128—128, I think, so far as I recollect; but the number on the roll is 145 just now. Six years ago it was 170.

4772. What is the population of the parish, do you know?—The population of the parish is about 2000; but the number of children just now is low. It depends upon the crop of children at the time. It is likely to rise, if anything, now.

Exercises given.

4773. *By Mr Shaw Stewart.*—I see in your suggested list of four items you make no mention of free movements. You start at once with dumb-bells, cross-bars, Indian clubs, and so on. Have you left them out intentionally—physical drill without apparatus of any sort—or have you intended it to be understood that you begin with that?—We have had no drill except with dumb-bells and bar-bells and Indian clubs. We have no free exercises.

4774. No free exercises at all?—No, we continue with the dumb-bells and bar-bells and Indian clubs and cross-bars.

4775. Is that following Colonel Cruden's system?—Yes, Colonel Cruden has free exercises, but we never introduced the free exercises at all. We got dumb-bells, bar-bells, and Indian clubs, and have continued with these.

4776. Is that because you have not time or because you do not attach so much value to the free movements?—Well, we have never started the free movements. We have adopted these without considering the free exercises at all, because the dumb-bells and the bar-bells give them something in their hand.

4777. You have not studied the value of the free movements?—No.

Music.

4778. I see you do the movements to music?—Yes.

4779. How do you correct mistakes in the individual pupils while the music is going on?—Before taking them to music, we usually go over the exercises carefully first.

4780. Then you do not use the music until they are fairly perfect?—Not until they are fairly perfect.

4781. Have you any experience in evening continuation classes?—Very little.

4782. *By Mr Fergusson.*—Who superintends your physical training in Ochiltree?—I do it myself.

Experience.

4783. But have you no trained instructor?—No.

4784. Never?—No. A number of teachers two years ago had lessons from Colonel Cruden's instructor.

4785. Would you like to have now and then a visit from an expert just to supervise the work and to give

you hints?—Well, I think that would be preferable.

4786. Have you never tried to have that?—When physical drill was introduced, I tried to arrange with a neighbouring parish, but failed to do so.

4787. But if arrangements were made so that every now and again you could have a visit from a trained instructor, would you welcome that?—Well, I think that would be preferable, as I have stated here.

4788. *Mr Alston.*—Among other things suggested to be tried is the formation of branches of the Boys' Brigade?—Yes.

4789. You refer of course to the country generally, because in a small parish like Ochiltree——?—We have our Boys' Brigade in Ochiltree.

4790. Connected with one of the churches?—Yes, with the two churches—Parish and U.F. churches.

4791. And you could not increase the number of companies; they must be connected, you know, with a Christian organisation?—Yes.

4792. You could not increase the number of companies in Ochiltree?—No; but the number in the company at present might be increased in that connection.

4793. Your remark must refer to the formation of such companies over the country as far as possible; that would be one of the advantages you would desire to have?—Yes.

4794. Then you speak about the students undertaking a systematic course of training; you mean the future teachers?—Yes; students as teachers.

4795. And you would have these teachers thoroughly instructed?—Yes.

4796. Do you know their sentiments towards the introduction of physical training into the schools; are the teachers all favourable towards it?—Yes, I think they are generally favourable. Some complain of not having sufficient time, that is the only thing.

4797. That is the only objection they have?—Yes. Some take it too long at a time; but there is a general inclination for it.

4798. You refer also to military drill?—Yes.

4799. Do you mean more than simple movements—turnings, etc.?—Well, I would not do more than simple movements amongst boys.

4800. When you speak of Boys' Brigade companies, that means purely military drill?—Yes.

4801. But in the school you would simply have marching movements?—Marching movements and turnings; simple drill.

4802. Would you prefer to have an expert coming regularly to examine them?—Yes, it would be preferable, but that would only be in larger areas as a rule; small school boards would not combine; I am afraid it could not very well be done, that is my opinion.

4803. Only one more question. Is there any objection on the part of parents, or the general public, to military drill such as is practised in the Boys' Brigade?—Well, one or two have had a feeling thinking that it has a tendency to militarism, but that is a mistaken idea altogether.

4804. And that idea is exceptional?—Oh, yes, quite exceptional.

4805. Have you had any objection on the part of parents as to giving girls physical drill?—No, none. There are a few delicate children, but, of course, they are let off.

4806. They, of course, would be exempted at any rate?—But there is no general feeling against it by any means.

4807. *By Mr M'Crae.*—What time per week do you give to physical drill?—I take boys on Thursday about half an hour and the girls on Friday, half an hour.

4808. That is half an hour per week each?—Half an hour per week each; yes.

4809. At what age do you start them with the physical drill?—We take the whole school always.

4810. Do you start the very youngest ones with dumb-bells?—No, not with dumb-bells. I think free exercises were mentioned; I should have said that the female assistant gives free exercises. I leave them partly to her. These are free exercises.

4811. That is what I thought?—I should have said so.

4812. *By Mr Shaw Stewart.*—But there is only half an hour a week?—Yes. Just about half an hour a week.

4813. *By Mr M'Crae.*—And that is done without dumb-bells?—That is done without dumb-bells from the infants up to what we call the second standard—about eight or nine years of age, all above that age have dumb-bells or bar-bells, and the very oldest, Indian clubs—a few of the senior boys and girls.

Rifle shooting.

4814. I notice in the last paragraph you recommend shooting; I suppose that is more from a patriotic view than from the point of physical development?—Well, it is partly that too; I think it is part of physical and national development to have rifle practice certainly.

4815. And do you recommend that the rifle club should be formed in the parish or in connection with the school?—It should be formed in connection with the parish or district.

4816. By whom?—Well, in the Dalmellington district (Ayrshire) there is a rifle association, and there is a feeling generally to have a rifle association in our own parish, not of the youngsters, but of the lads of from seventeen or upwards, young lads and men—adults.

4817. *By the Hon. Thomas Cochrane.*—You alluded to the Dalmellington range; that is kept up by the enthusiasm of Mr Thorneycroft, I think, very largely?—Yes; I am not a member of it, but a neighbour teacher of mine is an enthusiastic member of it; I heard him speak of it.

4818. I believe they appreciate it very much?—Yes, they do.

Physical training: effect.

4819. You do not directly see the effect of physical training upon your scholars, but I understand you approve very highly of physical training?—Oh, yes; it is a relief from ordinary work sometimes, and if it is not carried too far to make it worrying and wearying to them, it is certainly a capital exercise for them, there is no doubt.

4820. And they appreciate it?—Oh, yes.

4821. You think that the system of physical training could not be introduced more in schools in country districts, I see?—Well, not all that is mentioned here; we might have fencing. Football and some of the other exercises here, of course, are more or less left to voluntary societies. Such as swimming—we could hardly have it in country places.

Accommodation.

4822. You could have all these under heading football, cross-bar, Indian club, bar-bell exercises, and skipping rope?—Yes, I have sufficient accommodation in the school for the exercises you mention. During wintry weather, such as last winter, it would be very seldom that we could have these outside.

4823. Are your floors graded with fixed seats?—Fixed seats, yes, but there is a good deal of floor space in front of the desks.

4824. Do you approve of graded-in schools, and fixed seats?—You mean rising.

4825. Yes, rising?—Yes.

4826. Do you find any advantage in them?—Yes.

4827. It rather reduces the floor space for the purpose of drill?—It would not reduce the floor space. We have plenty of floor space in front, even though we had a gallery.

4828. You have sufficient space in your school to go through physical exercises?—Yes, but not in all schools; some would require accommodation.

Inspection.

4829. *By the Chairman.*—When was your school last inspected in physical training?—It was inspected at the annual examination—that is in November.

4830. When was it last inspected—last November?—Yes.

4831. By whom?—By Mr Lobban, H.M. Inspector of Schools.

4832. He examined it, and what did he say; shortly, what was his report about it, on physical training only?—Yes, that was mentioned in the general report. I

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could not exactly say, but he approved of the drill that we took, in general terms. I do not recollect exactly what he said, but we showed him specially the exercises we had in bar-bells and dumb-bells and Indian clubs.

4833. What sort of length of time did that inspection take?—Of the physical training?

4834. Yes?—Of the drill?

4835. Yes?—A quarter of an hour, I think.

4836. For the whole school?—No, he took specimens of the different exercises in the senior division only.

4837. But is it his custom to examine every one or to take specimen children; I mean, is there room for it?—It is his custom to take the classes as a whole, not individuals.

4838. So that every child in the school is examined in physical training?—Yes; not individually, but as a class. We have two divisions in our school; the junior division is managed by a lady assistant, and she gives the free exercises as I have stated. Mr Lobban took the senior department. The boys and girls were taken separately in different exercises, some with Indian clubs, some with dumb-bells. They were both examined with dumb-bells, and some of the bigger boys with Indian clubs.

Report on school.

4839. *By Mr Fergusson.*—I had not seen that report when I asked you—that very excellent report by the inspector on your school. Now, do you attribute any of the very excellent results that are mentioned there to your physical training, or do you think you would get just as good results if you had no physical training whatever?—I think the report would have been quite independent of the physical training; but the physical training was part of the work examined, and is included in the general report.

4840. What I meant was, does it help your book work; does it brighten up your children?—Oh, yes, certainly.

4841. I do not think physical training is specially mentioned there, but it is a most admirable report?—It is referred to.

4842. *By Sir Henry Craik.*—I wish to correct one point about that. You said this was at the end of the school year?—No; the end of the school year is in January.

4843. That, perhaps, gave rather a false impression that the Inspector only visited at the end of the school year?—Yes, during the course of the school year; it was in November he came.

4844. He does not necessarily come at the end of the school year; he comes at an unannounced time?—An unannounced time, and Mr Lobban is arranging the work of inspection.

4845. Never mind Mr Lobban; what I want the Commission to understand is that he comes at any time during the school year that he pleases?—Any time.

4846. And last year he did not come at the end of the school year, but during the course of the school year?—Yes.

4847. And he might come two or three times?—Yes, two or three times, any time.

The witness withdrew.

Mr A. Moody.

Mr Alexander Moody, examined.

4848. *By the Chairman.*—You are the headmaster of St Quivox Public School?—I am.

4849. Where is that?—It is about two miles from the town of Ayr.

4850. How many children have you in your school in average attendance?—In average attendance about ninety.

Floor space.

4851. You have no room I see in your school for physical training?—No floor space, my lord.

4852. That is on account of the space taken up by the desks?—That is the fact.

4853. In stormy weather, which I suppose sometimes happens in Ayrshire, like everywhere else, then there is no physical training?—Well, the days that we cannot take it; supposing it is a very very stormy day to-day, I take it next day if it is a good day.

Covered shed.

4854. And you think that if there were a shed put up in the playground it would be of great advantage?—I think so, in all rural schools, as a shelter for the children; but it would act as a drill place too.

4855. You have no experience of continuation classes, have you?—None, my lord.

Continuation Classes.

4856. But you have the idea that the physical training required in the day schools should be carried into the continuation classes?—I have; yes.

4857. With the addition of cross-bar exercises, fencing, swimming, cricket, and so forth?—Yes, my lord.

4858. Does that include football?—Well, of course, football is a thing that is coming in; I scarcely thought I would suggest.

4859. I did not know whether it was in the word '&c.'?—I meant that.

Boys' Brigade.

4860. You also suggest the formation of Boys' Brigades and rifle shooting clubs?—I do, my lord.

4861. Is that for their own benefit physically or for any other reason?—Well, shooting is a great thing nowadays, and I thought, perhaps, after they come to the age of being able to handle a rifle that it would be better to have it.

4862. That they would be none the worse for it?—That they would be none the worse for it.

Cruden's system.

4863. What is the system that you go on in your school?—Colonel Cruden's system.

4864. And who teaches that?—I do.

4865. Only; or have you any assistance?—No one but myself.

4866. You have not got this ex-army man that I see you recommend to be appointed instructor?—No.

4867. You think it would be an advantage?—It would be.

4868. And a help to you?—And where there are two or three parishes contingent he could do perhaps the officership and drill instructor as well.

4869. Who would pay him—the United School Board?—I think the School Board would pay him; they ought to pay him.

4870. The group of Boards?—The group; yes.

Teacher's assistant's work.

4871. Have you any assistant teacher in your school?—I have a lady teacher.

4872. Does she know anything about physical training?—Well, very little; she does merely the youngsters, you understand, under seven.

4873. How does she come to know the little that she does know?—Just from book.

4874. I mean have you taught it her, or has she been taught elsewhere?—She never was taught elsewhere. I told her she must do it, and I take them all from what we call the junior, that is over seven.

4875. She teaches them up to seven?—She teaches them up to seven.

4876. And you take them on beyond that?—Yes.

Time.

4877. How often do you take them?—Twice a week.

4878. For how long?—Twenty-five minutes.

4879. Twenty-five minutes twice a week?—Yes.

4880. Twenty-five minutes at a time?—Twenty-five minutes at a time.

4881. That is fifty minutes in a week?—Well, about an hour a week, I might say.

Cruden's system: continuous course.

4882. And do you do a continuous course under Colonel Cruden's system?—Yes.

4883. That is to say, do you give the younger ones a different class of exercise to what you give the older ones?—No, they all begin.

4884. From seven to fourteen they all do the same thing?—They all do the same thing.

4885. Varied, it may be, from day to day?—From day to day; yes.

4886. But there is no difference between them?—No difference, no; just continuous.

4887. Have your children far to go in many cases?—Well, about two miles or three miles. It is wholly rural; my school represents ploughmen's and farmers' children.

4888. Do you ever hear of their being very tired at the end of the day after they had come home?—I never heard any complaint in that way.

4889. You would not be at the other end, so you would hardly see them, but you might have heard?—No; but still they are always very early in the morning.

4890. What time do you begin school?—I begin school at nine o'clock, but they are there about eight in the morning. I have no difficulty in getting them to come to school.

4891. Not even in the winter?—Even in the winter.

4892. I suppose they keep on the same boots that they come in all day, do they?—Oh, yes.

4893. You never had any notion of giving them a change of feet?—No; the Board never suggested that.

4894. And you never suggested it to the Board?—No, I never did.

4895. Do you pay much attention to the children's health as regards the physical exercises; do you often find that you have to exempt a child from doing any exercises because it is not strong?—If I see a case—but there is never a case of that kind that has come under my observation—I would do that; I would put it aside and exempt it from any physical exercises.

4896. You, I suppose, are in the way of knowing whether a child is sickly or not?—Well, from observation. I am not a medical man.

4897. Do you mean to say that you do not have such things as sickly children?—Very few.

4898. Very few?—Very, very few indeed.

4899. Have you not had any influenza?—Yes; we have had that, and measles and scarlet fever, just what you would get in a rural school.

4900. You have never found any after-result?—No, none, and I have had no reports from the parents, at any rate.

4901. In your time-table how do you style physical training; you prepare a time-table do you not?—Yes, sir. Approved of.

4902. What do you put down in it?—Drill.

4903. Simply drill?—Simply drill.

4904. Not 'physical drill' or 'military drill,' or anything, simply 'drill' alone?—Drill; physical drill.

4905. You do call it physical drill?—Physical drill.

4906. In the time-table?—In the time-table.

4907. And do you say in accordance with Colonel Cruden's system?—Not on my time-table; but when I am asked to fill up a certain form for the Department, I say 'Physical Drill, according to Colonel Cruden's system.'

4908. *By the Hon. Thomas Cochrane.*—Have you been through a course of training in physical drill?—I have, sir.

4909. Where was that?—In Ayr.

4910. Who was the instructor?—It was under the Aberdeen Training College, an expert sent down from there; it was a Mr Joseph that drilled us.

4911. You got good instruction in the system, did you?—Well, yes, I thought so.

4912. And you think that the system is well qualified to bring out the physical development of the children?—I do think so.

4913. *By Sir Henry Craik.*—Were you a Training College student?—I was, sir.

4914. Then you had no drill at the Training College in your time?—Yes, we had, but you could not say it was to any great extent; we were drilled; we had fencing and ordinary military drill, you understand.

4915. Which Training College?—The Established Church, Glasgow.

4916. And is it developed now further in the training colleges?—I cannot say.

4917. The class at Ayr which you attended was one where the teachers paid their own fees, I presume?—Yes.

4918. You were not helped by the School Board?—No, we were not.

4919. The facilities for obtaining that have been increased lately, have they not?—Well, yes, I think so.

4920. *By Mr Fergusson.*—Are your children of the well-to-do class?—Farmers and farm labourers.

4921. Have you any poor children; poorly clad, poorly fed?—None; no.

4922. They are all well found?—Yes.

4923. You say you have never had the assistance of a trained instructor?—I have never had.

4924. Would you care to have that?—I would like very much; I think I have suggested that in my evidence.

4925. One hour a week is the time you devote?—Yes. Time.

4926. Can you not do more?—Well, we might do more, but you understand everything is crowded in. We have a very short day in a sense, and we have so many subjects to undertake that you cannot do too much.

4927. Mr Turnbull, who came before you, I see, gives his boys three hours and his girls two; do you think you could not do that?—Mr Turnbull is on quite a different footing from me.

4928. *By the Chairman.*—Perhaps you would explain to the Commission why. Because we do not know; I do not know; I am perfectly ignorant on the subject; would you kindly explain what you mean?—Mr Turnbull you referred to here, did you not, well, he has everything thoroughly up to the mark, you see,—I know nothing so far as a gymnasium is concerned, you understand; my gymnasium is just merely the playground.

4929. *By Mr Fergusson.*—That does not quite answer my question. Why could you not devote longer time to the physical training without interfering with your other subjects?—Well, I could; but we must make a decent appearance in everything, you know; and if I devote too much time to physical training, it is taking it off the other subjects, perhaps.

4930. You would be afraid your other subjects would suffer?—Well, yes, because I take up the drill during the interval.

4931. Quite so; as a fact you are not convinced that the drill is of so much advantage to the other subjects?—I say it is; I say that drill is a proper thing if you have the time and every other convenience.

4932. *By Mr M'Crae.*—Did I understand you to say that you took the drill in the interval?—Yes, sir. Drill taken interval.

4933. So that the hour that you have mentioned does not come off the school time at all?—That is so, sir.

4934. *By the Chairman.*—The dinner interval?—Yes.

4934A. *By Mr Shaw Stewart.*—Have you ever considered whether 20 minutes a day, say 10 minutes in the morning and 10 minutes in the afternoon, would not be a good thing for your pupils if you devoted that time to physical exercise instead of your giving twice a week 25 minutes?—We do so, sir. I have considered it.

4935. Have you ever considered whether it would not have a good effect on your pupils' wits as well as on their muscles if you gave them 10 minutes every day in the morning, even though that time came out of school hours?—Well, I cannot say; given any time it would be beneficial.

4936. Some of our witnesses told us that even at the sacrifice of a portion of lessons, if you devoted 10 minutes or 20 minutes a day to physical training they do their work better in the rest of lesson time, though that time may be shorter?—I would agree with that.

4937. But you have not yourself tried it?—No, I have never tried it, no.

4938. You think it might be a good plan?—It would be a good plan.

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4939. *By Sir Henry Craik.*—How long did you say you gave drill to the boys?—Twice a week, Wednesdays and Fridays, about 45 minutes; 25 minutes twice a week.

4940. And how long to the girls?—I drill the boys and girls together.

4941. And then do they get the same amount?—They get the same amount; yes.

The witness withdrew.

Mr J. Mackenzie.

Mr John Mackenzie, examined.

4942. *By the Chairman.*—Are you a member of the School Board of Kingussie?—I am, my lord.

4943. Have you been a member longer than this present period?—I have been on six years now, more or less.

4944. Six years come next March?—Come next March; yes.

4945. Perhaps you will kindly go through your statement, will you?—We have got three schools in the district—Kingussie, Newtonmore, and Dalwhinnie. Newtonmore School is three miles distant from Kingussie, Dalwhinnie is fourteen.

Opportunities limited.

Our opportunities are limited, as we have no covered court in which we can drill the senior boys in stormy weather; and also seeing that so much is expected of our pupils by the Education Department, we can afford very little time for drill and physical training.

We have to drill male pupils over ten years of age outside in the playground. The others receive their physical training in their classrooms.

Teachers *plus* army man.

All our pupils are physically trained in the Kingussie School by qualified teachers, and boys above ten years of age are drilled twice a week by Sergeant M'Intosh, an army pensioner. Independent of this, living as we do in a part of the country noted for its salubrity, and with all the other outside games entered into by the pupils, we consider physical drill less necessary than in crowded centres.

In Newtonmore School our drill instructor takes the senior boys for half an hour once a week, and the teachers drill their different classes twice a week.

In our very small school at Dalwhinnie the female teacher does what she can in this respect, but is not specially qualified.

For upwards of fifteen years a retired army sergeant has invariably been employed to drill the older boys in our principal schools. We may state that we have always a considerable number of male pupils in this school over eighteen years of age, and deem it a hardship that no grant can be earned by these from the Education Department.

Military drill.

It is essential for the welfare of the country that young men of this age be more or less instructed in military drill, and the Board hope that in order to

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enable them to do this, a sum equal to the grant they are deprived of by the Education Code be given, and thus they may be enabled to pay more attention to this branch of physical training. Some of the older pupils have at times joined the local volunteer corps, but their doing so interfered more or less with their studies.

The training has been highly successful, and the pupils have been physically benefited by it, but doubtless this would have been more marked had it been possible to devote a longer time to it, and a substantial grant given.

The pupils in our schools are well educated, as a rule, before leaving, and on doing so, rarely remain for any time in the parish. They go to large cities, the colonies, etc., where better salaries can be obtained than here; consequently there is not the same need for continuation classes in our district as in some others.

Suggestions.

We may mention that we would like our young men to have some technical training before leaving our higher department school. This we would prefer to more time being spent on military drill, as the use of arm and muscle would in our opinion go far to develop both mind and body, and certainly would contribute towards 'the sources of national strength.' This, however, the School Board find beyond their powers on account of the small population, as the cost of maintenance would be too great, for extra teaching apparatus and courts would be required. They consider it a matter worthy of the attention of the Government.

For the last few years a good many of the young men educated at our public schools have joined the army, and have invariably distinguished themselves. The physical training received while pupils must have conduced to their decision and success, and were the terms of enlistment more lucrative, probably more would have offered themselves for that profession.

4946. But of course it is approachable by rail?—Yes, Newtonmore is quite approachable; it is within easy distance; you can cycle or walk there. Dalwhinnie is not so easily got at; the train service is not very good there.

4947. *By Professor Ogston.*—This is a tolerably typical Highland district that you represent?—It is.

4948. Would you think that the compulsory instruction in such a subject as swimming would be at all practicable in it?—Well, I hardly think at present it would, but it would be a great advantage to the pupils if they could be taught to swim.

4949. And the difficulty would come in in the question of cost?—Principally in the cost, but I have no doubt that something might be arranged outside in the river or something of that sort; it is a matter that could be gone into.

4950. *By Sir Henry Craik.*—You say in one paragraph that you think a grant ought to be given to pupils over eighteen years of age. Have you many pupils in your day schools over eighteen?—There are a good many at present.

4951. With what object are they staying?—I suppose studying for the University.

4952. But if they are going to the University, do they not go there before they are eighteen?—They generally stay a little while longer with us.

4953. Do you not think that a boy ought to be getting done with an elementary school at eighteen?—You would think so.

4954. Do you really think the Department would be justified in paying grants at ordinary day elementary schools for young men over eighteen?—In connection with the physical training of these boys.

4955. But are they boys over eighteen; are they not young men?—They have been considered as boys there.

4956. Are they going to give their whole time to military drill, their whole day?—No, not the whole day.

4957. Then ought they not to be employed in some way at eighteen years of age during the day?—Well, they put in the whole day in school training.

4958. And you think, all over the country, that you ought in the elementary school under the Code to give facilities to young men over eighteen to receive grants as if they were children of school age?—I think this is an exceptional case.

4959. But is there not opportunity for those older boys going to continuation classes at the intervals of their employment?—There are no continuation classes in our district.

4960. Why do you not open them?—We have not got the pupils; we have only got the day school pupils.

4961. Are there no young men employed in the neighbourhood?—Well, there are very few who stay with us; they generally clear out.

4962. At what age?—They generally clear out about fifteen, sixteen, seventeen or eighteen.

4963. Then the number you have to provide for at eighteen is small?—These are not our own boys, these are boys coming in from other districts to our school

4964. They could carry on continuation classes and be employed during the rest of the day?—It would be a difficulty getting employment for them there.

4965. For boys over eighteen?—Yes, in our district.

4966. Then surely they will go away; they will go somewhere where they can get employment, but do you think you would encourage them in not seeking employment by paying them grants?—The Board at least thought they would be able to teach them a little bit more of military drill.

4967. But you could do that in Continuation Classes; you could have classes for military drill and receive grants for it, but do you deliberately as a member of a School Board think it would be a good thing to keep a young man over eighteen sitting in an elementary school the whole day instead of seeking for employment, and do you think that the State would be justified in paying for such a young man?—Well, seeing that they are there, they consider it a hardship that they do not get something for them.

4968. *By Sir Thomas Coats.*—Do you know what time is given weekly in the schools for physical drill, say for children up to fourteen?—In the Kingussie School the army sergeant drills the boys for half an hour twice a week.

4969. That is, they get an hour a week?—They get an hour a week.

4970. Each schoolboy?—Each schoolboy; yes.

4971. The infant classes get the same time?—The infant classes are taught by the teachers; from ten up to twenty-two years the sergeant teaches these; in the infants' department the teachers take the physical training.

4972. And do they get as much; do they get an hour a week?—Yes, more or less, an hour a week.

4973. What proportion of children would remain in your initiatory schools after fourteen?—Well, I could not say for certain the proportion.

4974. You could not give us a rough idea?—I could not; I would not like to say exactly.

4975. But would there be many; are there many who remain beyond fourteen?—Yes, there are a good many.

4976. A good number?—Yes, a good number.

4977. How far do they go on; do they get special instruction?—Yes, special instruction; they take the leaving certificate.

4977A. And they can go right from these schools to the University?—They can; yes; from Kingussie school.

4978. *By Mr Fergusson.*—You spoke of the limited space for physical exercises, but you have some room inside your school where you can give some physical exercise, have you not?—Well, the juniors can be drilled inside.

4979. I am not talking of drill, I am talking of physical exercises?—No, there is no room for that sort of thing.

4980. You do not require a room larger than this for doing all these motions; I am not speaking of being drilled in companies and so on?—The different classes.

4981. What is called physical exercise; do you do nothing but drill in your school?—We do nothing but drill; no.

4982. You do not do all these movements with the arms?—The female pupils are drilled in the dumb-bells and the bar-bells.

4983. Have you no free movements of the arms?—Oh, yes, the juniors get all that.

4984. That is done in the classroom?—In the classroom; yes.

4985. Then there is room in the classroom?—For the classes that are in the room simply.

4986. You might extend that training by devoting more hours in the day to it. It is not necessary to have a larger place because you take more time over it?—Well, it is not necessary to have a larger place if you do not put the other classes into the same room to get the same form of drill.

4987. Have you only one room?—No, there are several rooms, but they are all trained in their own rooms—the different classes.

4988. If you can do half an hour's physical training you can do one hour or two hours, it is only a matter of devoting a little more time surely?—They find that they cannot spare the time, I believe. Time.

4989. That is another thing. That is not the fault of not having a covered court, as you call it?—Yes.

4990. You think you have no time; you have so many other things to do you cannot devote more than an hour a week?—That is so.

4991. You have never tried, though, to see, if you devoted two or three hours to physical training, whether it would have a bad effect on your other lessons?—Well, it has been the opinion of the Board that they could not spare it.

4992. I understand you take more time in drill than you do in the free exercises?—That is for pupils from ten years upwards—ten or eleven years upwards.

4993. *By Mr Shaw Stewart.*—Have you been through any system of physical training yourself?—I have never been through any special training. I have been in the local volunteer company. Drill and free exercises.

4994. You do not know the value of free movements?—I can see it. It is quite apparent.

4995. Quite apart from drill?—Quite apart from drill; yes.

4996. You chiefly devote your physical training to drill?—To drill; yes.

4997. *By Mr M'Crae.*—I think you said that some of the older pupils have joined the volunteer corps, but that their doing so interfered more or less with their studies. Does that apply to those boys above eighteen years of age?—Yes, and some of them under that—from sixteen to eighteen.

4998. Is that really so; are the Volunteer requirements so very great there that they would interfere with their ordinary studies?—Well, the drill for the Volunteers takes place in the evenings, and it was understood that the boys lost more time than they were entitled to lose getting drilled with the Volunteers.

4999. I notice you put great emphasis here on the military drill; is that rather from the patriotic point of view, seeing that you believe in physical training, and you would rather have drill than gymnastic exercises?—It is a question of the word altogether, I expect. Military drill and gymnastic exercises.

5000. No, it is not a question of the word; we will take a lad at seventeen; you want to give him some physical training; do you think it better that he should be drilled, so that he might be useful as a citizen soldier, or that he should get gymnastic exercise?—I would certainly train him as a citizen soldier.

5001. Have you formed any opinion as to the value of the different forms of training on the individual?—No, I have not; but I think he would be more useful to the community if he learned a little bit of military drill.

5002. We would all grant that. You say that the School Board finds it beyond their powers, on account of the small population, to incur the cost of extra apparatus and courts?—Yes. Cost: central institution.

5003. Have you considered the possibility of having a central institution for your part of the county?—Well, that was talked about there too; that was the only possible way of getting out of the difficulty, we thought.

5004. And is that not a way out of the difficulty?—I think so.

5005. How would the rate be levied—on the county rate?—Well, in proportion to the number of pupils that would be drafted into the central school somehow or another.

5006. *By the Chairman.*—I should like a little more information as to these elderly infants; how many schools have you in Kingussie—more than one in Kingussie itself?—No, just the one. Pupils: number over eighteen.

5007. Newtonmore is another; one in Kingussie and one in Newtonmore and one in Dalwhinnie?—And one in Dalwhinnie, yes.

5008. How many are there in the school at Kingussie?—There would be about 250, I think.

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5009. And Newtonmore?—In Newtonmore about 70 to 80, and Dalwhinnie probably about 30.

5010. They are younger children at the Dalwhinnie one, are they not?—They are younger children.

5011. Do I understand that when they get older they leave Dalwhinnie and come into Newtonmore and Kingussie?—They come into Kingussie to get further instruction.

5012. As to the number in Kingussie alone, out of this 250 how many do you say there are over eighteen—twenty?—No, there are not twenty over eighteen, perhaps about a dozen; I could not be certain.

5013. But you think there is a dozen?—Yes, I think there is.

5014. And it is not an exceptional thing; it is a habitual thing?—It has been going on for years.

5015. Without much increase or decrease?—Well, more or less the same average; it might be more, it might be less, than what I say.

Careers of boys.

5016. Do any of your boys go in for the ministry?—A good many of them.

5017. Where do they go to; I mean you cannot help them very largely there; where do they go to?—They go right away into Glasgow or Edinburgh to the University.

5018. When do they go; at what sort of age?—These are just the very boys that I am speaking of now, these older boys.

5019. They do remain on in the elementary school till eighteen or over, and then go right into Edinburgh or Glasgow?—And then go right into Edinburgh or Glasgow.

5020. And otherwise unless they are going in for that sort of life they nearly all leave beforehand?—They leave beforehand.

5021. Then those that you mentioned in your statement as having joined the army, when did they leave you; about the age of fifteen?—They left at fifteen to eighteen.

5022. That is a very large class; there is a great many that go into the army, are there not?—No, there are not very many in our district who go into the army.

5023. Where do the rest of them go?—Well, they go abroad.

5024. At the age of fifteen?—About fifteen; they generally go into business for a little while in this country and then go abroad.

5025. Do many of them get employment as ghillies and that sort of thing?—Very few of the boys in the school—very few.

Girls.

5026. About the girls; do they do any physical training after fourteen?—Oh, yes, all the time; they are there, and get trained with musical drill.

5027. Have you got many girls who remain on till eighteen too?—There are not so many girls remaining on till eighteen.

5028. What happens to them?—Unless they go in for teaching or something of that sort, they clear out.

5029. They go to their homes after fourteen, do you mean?—Not quite so early as that.

5030. They do stay on largely?—Yes, a good proportion of them stay on after fourteen.

5031. Do you consider that they are quick at learning, or rather the reverse, up there?—I should say they are quick at learning.

5032. And fond of it?—And fond of it; yes.

5033. Do they like these physical exercises or do they hardly think them much; they are naturally pretty strong and pretty healthy, are they not?—Yes, and there is a good deal of sport outside, that they do not require so much physical training as most other children.

The witness withdrew.

Mr Thomas Wallace, examined.

Mr T. Wallace.

5034. *By the Chairman.*—You are the headmaster of the Inverness High School?—Yes, that is so.

5035. And how long have you been so?—Over thirty years.

5036. Would you mind reading your notes?—

Opportunities.

Opportunities now available.—For the last twenty years, physical training has formed part of the ordinary curriculum of the High School, which has over 1000 pupils, and is divided into Infant, Junior, Senior and Secondary Departments.

Departments.

Infant Department.—Exercises in free gymnastics are regularly given to the pupils of from three to six years of age; dumb-bell exercise to those from six to seven; and bar-bell exercise to those from seven to eight years.

Junior Department.—In the classes corresponding to old Standards I. to III., all the pupils receive regular exercises with dumb-bells, bar-bells, Indian clubs and marching exercises.

Senior and Secondary Departments.—In the classes corresponding to old Standards IV. to Ex-VI., in addition to the above exercises in the Junior Department, the boys get military drill in the summer months.

Military drill: definition.

By military drill, I do not mean such exercises as are likely to make soldiers of them, but exercises combined with marching to develop the physical powers. Ordinary military drill does not develop the physical powers, as has been proved by actual experiment. Given a certain number of boys and divide them into two companies. Give one military drill, the other physical training, and measure their chests.

Applied gymnastics.

The boys have also received instruction in gymnastics—parallel-bars, horizontal ladder and the horse.

Teachers.

The classes are drilled by their own teachers.

Army sergeant.

The janitor, who was a retired sergeant of the Seaforth Highlanders, and a capital drill master, assisted with the gymnastic exercises and the military drill.

Music.

In addition to the exercises and drill, the pupils are marshalled and marched to music to and from their classes at every interval and change.

This I look upon as an essential point, because the effects of the drill lesson should be seen in all the children's movements, and in the prompt use of muscular power in obedience to the dictates of mind, so that such powers become automatic and thus bring the powers of the body under the immediate control of the will. In fact, I think the effect of all these exercises should become automatic in the children.

Inverness schools generally.

Other Schools in Inverness.—In the other schools under the Inverness Burgh School Board the pupils are trained in dumb-bell, bar-bell, Indian club exercises and military drill.

The pupils of all the schools are taught swimming in the Public Baths. Each school has a day set apart for itself.

Medical inspection.

A medical officer is appointed by the Board to visit regularly all the schools, and report once a month on the hygienic and sanitary state of the buildings and the general health of the pupils.

Teacher instruct

At present fifty-two of the country teachers are receiving instruction in physical training from Sergeant Coxhead, who is employed by the Education Committee of the County Council. I think he is stationed there to push this question of physical drill as far as he can at all points. I think these are all the points in connection with the work that is being done at present, as far as I am aware. Then the next point is—

Physica training beneficia more tir necessar

Such training conducive to the welfare of the pupils.—Physical training should have a prominent place in the education of the youth of this country, and should form part of the ordinary curriculum of all our schools, and more time given to it. No boy's or girl's education should be considered complete without it. I think that the time that is usually set apart for it in the ordinary time-tables is not sufficient to carry it out successfully. It is generally on the time-table about

half an hour per week. I think that half an hour per week is not sufficient. That is my opinion, because—

(*a*) It encourages a normal development of physical powers.

(*b*) It prevents disease.

(*c*) It produces the joint action of mind and body through the medium of the senses, and it becomes automatic, as I have said already.

When carried on from right motives, and under careful and thoroughly qualified instructors, it improves the health of the pupils, and exercises a beneficial influence on the ordinary discipline and tone of the school. It not only strengthens and develops the physical powers, but fits the pupils for the better performance of the other subjects of instruction. I believe we have medical evidence to show that it also contributes toward brain-growth and to the symmetrical development of the mental faculties. It gives the pupils confidence and self-reliance, and, in the matter of military drill especially, it promotes good-comradeship and self-denial, and shows the necessity at times for sacrificing individuality for the sake of the community, which, I think, is a very important point in the training of young people. There are several other exercises that have this tendency, namely, —conducive to the welfare of the pupils—such as well-organised games, dancing, rowing—where that can be obtained—cricket and football. All these I mention, when properly superintended and conducted. The last two generally appeal only to a few—cricket and football. The next point is the opportunities for continuing such training after the present school age. Hitherto much of the good work done in many schools has been practically lost after the pupils leave school, for want of opportunities to continue it.

When pupils leave school at fourteen years of age, they are only beginning to benefit by such training, and consequently their attendance at continuation classes till they are seventeen years of age should be made compulsory, and physical training included in the curriculum.

This would enable them to have a three years' course in ordinary education, differentiated with a view to practical life, and to carry on physical training from a regular course of gymnastics to infantry drill, skirmishing and scouting for boys.

An advanced course could also be prepared for the girls.

In addition to the continuation classes, cadet corps would do much to keep the boys together after they left school.

The establishment of gymnasiums in burghs and districts would do good in this direction, and this, I believe, is not so difficult a question now as it would have been a few years ago, as we have village halls, recreation rooms and drill halls, which are daily on the increase in the country. Gymnastic apparatus in connection with these would make the matter easier.

School cycling corps and swimming clubs, when properly conducted, prove excellent auxiliaries.

I would suggest annual reviews and inspections of all the schools in a burgh or district; not by way of display, but by way of bringing the different schools together, and creating a wider interest in this direction.

The institution of awards—such as medals or certificates—to those who had completed such a course is worth considering.

An extra grant might also be offered to any volunteer corps, on behalf of all recruits possessing such certificates.

Then the last point I take up is the difficulties to be overcome:—

Want of properly qualified Instructors.—Most Normal trained students are qualified, but the older members of the teaching profession, and those who enter it from the universities, are not always so qualified.

This will cure itself in time if such training were made compulsory in our schools; for then managers and members of school boards would not employ teachers without this qualification.

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Suggestions.

Every training college and university should have a gymnasium, and every student should be made to pass through a compulsory course, especially those who mean to follow the teaching profession.

The course of training should include a knowledge of anatomy, physiology, psychology and hygiene. Text-books to be prescribed. Questions on the above should form part of the certificate examination. I am very pleased to see that a new drill-book has received the sanction of the Board of Education, and that book—I mean to substitute for the one in use—Major Cruden's—the only book that has been used in the North.

Accommodation.

The other difficulty is the want of proper rooms in the schools. Most large schools have halls, but the majority have only the ordinary class-rooms, which are not suited for a full course of training. Covered sheds in the playground are used in Continental schools, and I think an extension in this direction might meet the difficulty so far.

Teachers.

Another difficulty is the want of apparatus, which school boards are not always willing to supply. I may say the want of appreciation of the value of such training by the general masses, and even among the well-educated classes, by some school boards, and, I fear, I must add by some teachers. There is another difficulty, and that is the change of teachers in large schools, especially the change of staff. Where they change frequently, you find you do not always get a man or woman who is qualified, and then there is a break in the course of the training.

Apparatus.

Healthy men and women are the best assets a nation can have, and the strength of the Empire will be greatly increased when all our young men receive a thorough physical training. I think these are all the points that I have taken up.

Personal experience.

5037. *By Sir Henry Craik.*—You have a long experience of school life in Scotland; thirty years I think you said?—Yes, over that.

5038. Then you have seen great changes in regard to this part of work?—Very great indeed.

5039. But although yourself a teacher, not amongst the youngest grade, you have found it expedient to interest yourself in it, and you have developed it in your own school?—I have done so.

5040. And have you seen great advantages in the course of that time upon the pupils?—Certainly; the health of the pupil, as a rule, has improved, although that is not the only thing that has improved, and that is not the only thing that has improved the health of the pupil; in my experience, of course, better buildings and all that kind of thing; but in the ordinary organisation of the school decidedly, there has been a great difference since more attention was paid to this subject in my school under my own experience.

5041. Then you were more or less of a pioneer on the subject in your own district?—Well, I have tried to be that all through, not only upon this but on all other subjects. Several things that have become compulsory now, I am pleased to say that I had practised them before they actually formed part of the curriculum of the school according to Code.

5042. Your experience, like my own, goes back a long time. Twenty years ago it was comparatively rare to find it in the schools?—Very rare; I do not remember it twenty years ago.

5043. But you say in your own school you have had it?—Yes, I have had it for that time.

Former difficulties.

5044. Now what were the difficulties that you had to encounter. You say an apathy on the part of the parents?—Yes, and want of willingness to supply apparatus in the first instance.

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5045. On the part of the School Board?—Yes.

5046. That was the result of the apathy of the parents on the subject?—I suppose the result of apathy all round.

5047. And a belief that this was not properly a part of education at all?—Quite so.

5048. But you have had the help of the Inspector, Mr Robertson—his cordial co-operation in this move?—Yes, certainly, and the Inverness School Board, I must say, have shown a willingness to fall in with this or with any other improvement when we can show a sufficient reason for it. I must say I do not feel it a difficulty in my case, but I know it is a difficulty in other places from my own knowledge of other schools and other schoolmasters.

5049. You found your difficulty to proceed not only from a fear on the part of parents of what is called 'militarism,' but from apathy towards this part of education altogether. They did not recognise that it was an important part of education for their own children?—No.

Military drill: no objections recently.

5050. Latterly you say even the objection to the military drill has disappeared greatly?—Well, I have not heard any objection to it lately.

5051. Is there a fear that it might lead to enlistment or joining the army?—I think that must be in the case of very few; I speak from my own knowledge only.

5052. I would ask you, as acquainted with the character of that neighbourhood very largely, is there such a fear of joining the army?—I have not heard it expressed.

5053. You send a large number of recruits to the army every year?—Yes, a large number.

Army as a career.

5054. And looking, on the whole, to the career that these men lead, you would say it is not a bad opening in life for them?—No, I should say it is a very good one.

5055. There is not much reason in the prejudice, if any such exists, against their joining that career?—No, I do not think so.

5056. So that if, to a certain extent, the development of physical exercises were to lead to a greater desire to go into this career of life, you see no great evil in that?—I see the contrary.

5057. And you have had, of course, from Inverness-shire conspicuous examples of great services rendered to the country by the pupils of the ordinary country schools?—The pupils of my own school number between 25 and 30 in the first contingent of Lovat's Scouts and the Cameron Volunteers.

5058. I think that Sir Hector Macdonald was a pupil of an Inverness school?—I cannot say. He was not a pupil of mine.

5059. He was in an Inverness school?—He went from Inverness. There is another school in town, the Merkinch, situated quite close to the militia barracks, and the headmaster—with whom I had a conversation before coming away here—can give account of 138 of his boys who have gone to the army. This school being contiguous to the barracks, no doubt helped to develop this spirit.

5060. And many of these become non-commissioned officers at least, if they do not even rise higher?—Yes, I suppose they do; I do not know any of them personally.

Medical inspection: medical officer reports monthly.

5061. Following the course of your evidence, you spoke of a medical officer being employed by your School Board?—Yes.

5062. That is not common amongst the school boards of Scotland?—I do not think so.

5063. Was it by your advice or suggestion?—No, it was not, it came from the School Board itself.

5064. What are the functions that he performs?—He comes round and looks over the buildings, the outhouses and offices, sees that they are properly kept in a sanitary condition, and in case of epidemics he visits and gives his opinion as to whether the school should be closed or children kept away, and also in the case of defaulters I have used him once or twice. We get an excuse, the child is not able to come to school, it is not well. We send the medical officer, and he says so far as he can see the child is very likely well enough, and ought to go to school. That is one way in which he helps us.

5065. I suppose you have not very many cases in your school of underfeeding, or weakness caused by it?—No, not with me.

5066. But his attention might be directed to such a case if it arose?—I am sure it would—quite sure, because he has full power to look into all these matters, and report. He reports once a month. He comes round to my school once a month—the Board meets once a month.

5067. To go on, you speak of the difficulty of getting properly qualified instructors; now would you prefer that the instructors should be persons who are skilled, experts in physical exercises only, or that they should be the regular teachers of the school, trained to add this to their other qualifications?—I should prefer the trained teacher.

5068. The regular teacher?—The regular teacher of the class.

5069. Getting instruction in this special subject?—Getting instruction in this special subject from a thoroughly qualified instructor.

5070. You think he has a better hold over the pupils?—Yes, I think so.

5071. And it would work into the general work of the school better?—That is in my experience and what I have found most beneficial. As a rule you require a class teacher to be present while the visiting master is doing his work, and I think it is far better when the class teacher is thoroughly qualified in all subjects that are taught in the class.

5072. Then you think that in the training colleges there is much more encouragement given to this subject than there used to be?—Yes, I am sure there is.

5073. Then you speak of the Universities?—Yes.

5074. You know the University, I suppose, as an old University man?—Although not a University man, I know a good deal about them.

5075. And there, you think there is much neglect of it?—Well, I could not say that; but what I should like to advocate is that all students, at least those who mean to follow the teaching profession should go through a course of training.

5076. But why should you confine it to those who mean to follow the teaching profession?—I should not like to confine it to them; I think it should be given to everyone. But in the case of prospective teachers it should be compulsory.

5077. Do you not think the Universities of Scotland might do a great deal more than they do for the physical training of their students?—I have no doubt there is great room for improvement, and I should think if the physical training is at all of importance and essential for the health and physical development of the youth of the country, we cannot omit the Universities.

5078. Certainly not?—I do not think so.

5079. You speak of qualified instructors being appointed to give instruction to a group of schools; why should such instructors be appointed by the Department, why not by the School Board?—Well, I am afraid unless you make the subject a compulsory one it would not be universal.

5080. The Department does not appoint any teachers as yet; it leaves that to the School Board?—Still, I think in this particular case it would only be for a short period until the older men were wrought out and fresh men came in. I give the alternative, I think.

5081. But do you not think that it would be better that the Department should confine itself rather to granting certificates and to inspecting classes, and should leave the local management to appoint the teachers?—Yes, it is a question more of payment, however. Would the Department be prepared to make an additional grant for a year or two to enable the School Boards to provide such an instructor?

5082. Of course it is a condition of the grant at present?—Yes, it is a condition at present.

5083. *By Professor Ogston.*—How many schools has your medical officer to look after?—Five.

5084. And the total number in these would be?—Between 5000 and 6000, I think.

5085. His duties, therefore, would occupy a large proportion of his time?—I could not say how much. He visits me once a month, or if I send for him he comes if I have anything special to lay before him.

5086. And his duties with you are to examine, amongst other things, the buildings?—Yes, and the closets, lavatories, drainage, etc.

5087. Their sanitary condition?—Yes.

5088. And their ventilation?—Yes.

5089. And the state of the playgrounds and air spaces.—Yes.

5090. Does he help you at all with the medical examination or attendance upon your teachers?—With the pupil teachers?

5091. Yes?—But not with the others.

5092. They do not come under him?—He examines them and grants a medical certificate to the pupil teachers when necessary before their examinations, but I think that is all the connection he has with the teaching staff.

5093. He does not certify the physical health of those who are joining you as teachers?—Not as far as I know.

5094. Nor attend to their complaints of illness from overwork or nerve weakness?—We have never had such a case before us, and I do not know whether the School Board would require him to do so or not.

5095. And regarding the children, he also helps you?—Yes.

5096. He makes a general examination of the appearance of health?—Yes. He visits the rooms, and if there is any special case of weakness, his attention is called to it, and he certifies whether that child is fit to be in school or not.

5097. His work, to be efficient, depends a great deal upon the teacher—upon your calling his attention to anything special?—Yes, I think that is so.

5098. He does not enter fully into a medical examination of the children, such as stripping them naked and making them pace before him—observing weakness and deformity?—No.

5099. Do you consider that such an examination as I have spoken of—stripping them—is at all a necessity? Does your present plan, I mean, answer well?—Yes, I think it does.

5100. It is adequate?—There might be an objection, I think, to that part; on the part of the parents there might be a little difficulty if he were to enter into such a minute examination; we might have the parents objecting to that.

5101. But an examination in that style, you think, perhaps not so minute, but in that style, is not required of a medical officer to a School Board?—No, I would not think so.

5102. Your long experience leads you to say that, with your assistance, that which your Inverness School Board medical officer does at present is sufficient?—It is sufficient, I think.

5103. Has he any other duties except those of school board medical officer?—Yes. He is one of the medical practitioners of Inverness.

5104. Is he a medical officer of health?—No; he is Dr Lang, one of the medical men of Inverness.

5105. Do you know whether such an appointment requires a large salary?—I do not know. I do not know what his salary is. I should not think so; I would not think it would require much.

5106. Have you had occasion to consult him upon any other points regarding the health or the hygiene of your schools beyond those that you have mentioned?—None.

5107. All the other things work fairly satisfactory—automatically?—Yes, very well.

5108. Could you refer us to any medical proof that physical training promotes brain growth?—Well, I quoted from Dr Crichton Browne. Of course I cannot speak of this from my own personal knowledge, but from a paper written some time ago by Dr Crichton Browne, I think, on education and the nervous system.

5109. Can you recall whether that was a general paper, or whether it had any statistics to support it?—It had statistics, I think.

5110. And you found them convincing?—Yes.

5111. They referred, of course, to children?—To children; it was written about the time when there was such an outcry about over-pressure; I think some time ago when there was such an outcry about over-pressure and examination.

Swimming girls: female teacher.

5112. My last question is, do you find a female teacher necessary for teaching the girls swimming?—I do not know of any.

5113. I do not see that all your girls are taught swimming?—They have got the opportunity, but I am afraid they do not all avail themselves of it.

5114. Should you consider a female teacher extremely desirable for swimming?—For the girls?

5115. For the girls?—I should think so; I think it would be better.

5116. It would be a useful reform to introduce?—Yes; I think so.

5117. Could she be utilised for anything else?—I do not think she could be utilised for anything else in Inverness with the number of schools and the number of pupils.

5118. You could not get one of the female teachers employed in your schools who was specially trained to give instruction in swimming and who could add that to her other duties?—Of course her other duties would require to be lightened, but I should think that would be quite possible.

5119. I suppose it would be only in summer or in the warmer months of the year that the swimming would be taught?—It could be all the year round; if the bath was heated.

5120. Would it, in your opinion, render the teaching of swimming to girls more practicable if it were found possible to utilise one who already taught for the purpose of teaching the swimming?—You mean a female?

5121. Female?—Yes; I think so. I think it would be, at least in Inverness. I am of opinion that it was because it was taught by a man that the girls did not take advantage of it more than they did. A few of them did at first, but I do not think there are many of the girls now.

Swimming. boys.

5122. Have you yourself personally seen the swimming classes of the boys?—Yes.

5123. So that the teaching is not a pretence but a reality?—No. Each school in Inverness has a day set apart for teaching it in the baths, and then a certain number go down at a time. We have an evening devoted to the High School, one to Farraline Park, another to Central, another to Merkinch, another to Clachnaharry, and so on, and in that way the schools do not meet.

5124. At what age do you commence to teach them swimming?—Boys from Class IV. and upwards, that would be ten and eleven.

5125. Have you ever seen any harm to the children from compulsory swimming classes?—Never.

5126. No deaths?—No; I never heard any complaints or any deaths.

5127. *By Mr Shaw Stewart.*—You told us that you preferred the new physical drill book issued by the Department to Colonel Cruden's; would you shortly say why?—The new book is more in keeping with the military; it dovetails in, and teachers of drill have told me that where pupils have been taught by the one, and then the military drill coming after the other, that there is a little loss of time. If it is to go on to military drill, I would prefer to have the book that would lead right up through; because it has an amount of physical exercises as well.

5128. Speaking of the teachers and the difficulties to be overcome, you say that the want of appreciation of the value of physical training on the part of some teachers is one of the difficulties?—Yes.

5129. And you have already told us that you think

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teachers should be trained; would you go as far as this: that a man who fails to appreciate the value of physical exercise is not fit to be a teacher?—Not of that particular subject.

Teachers: physical training a necessary subject.

5130. But you have already told us that it is a very important subject?—Yes.

5131. And you said—I think I took the words down—that no boy's or girl's education could be complete without physical training?—Yes.

5132. Would you go so far as this; would you say that a man who fails to appreciate that value should not be a teacher?—Not if the subject is included in the curriculum of ordinary school education.

5133. But you are of opinion that it should be included in the curriculum?—Yes, quite so. If it is included I should say that he was not fit.

Continuation Classes: compulsion.

5134. One question as to the compulsory attendance at continuation classes: do you think that compulsory attendance could be secured for boys from fourteen to seventeen?—Yes, I think so.

5135. What penalties would you devise to make it succeed?—I could not say that; I do not see where there would be any more difficulty in making it compulsory than in making the ordinary school curriculum compulsory; Government compels every boy to attend school.

5136. You are dealing with boys who have left school?—There should be no more difficulty with them than there is with them up to fourteen. If the Government decide that a boy should be educated up to fourteen, and that his education is not to be considered complete until he is seventeen, there should be no greater difficulty.

5137. He is harder to catch after he is fourteen?—Harder to catch?

5138. Harder to catch and keep?—At present when it is voluntary that he should attend, but if it is made compulsory, and his education would not be completed until he is seventeen, I do not see why there should be such a difficulty.

5139. I do not say it should not be done, but you have not considered how it should be done?—I have not considered it further than I have stated.

5140. *By Mr Alston.*—You speak in one case of a retired sergeant of the Seaforth Highlanders, and in another of Sergeant Coxhead; are both these men experienced under the old system of drill, or are they quite up to date?—The officer of the Seaforth Highlanders that I referred to was the ordinary janitor and compulsory officer of the school, and it was part of his duty to give the boys drill and physical training. The other—Sergeant Coxhead—is, I understand, a gymnastic instructor attached to the Depôt of the Cameron Highlanders at Inverness.

Teachers and military drill.

5141. Could the teachers themselves undertake the military drill?—Yes, they do so now.

5142. Your own teachers?—Yes, the teachers of the classes.

Expert: important.

5143. Would it be advisable that an expert—that is to say, a man who comes from the centres of instruction—should occasionally visit and see that they are carrying out the work properly?—I think that would be of great importance.

5144. An ex-sergeant would not do for the post?—Such a man as Coxhead, I think, would do.

5145. Because in former evidence we have had the question of the old army sergeant—non-comissioned officer acting as janitor—and some witnesses thought they could get on very well with him; others said on no account would they employ an old army man?—Well, if I had only had experience of one I might be of the same opinion; but the last man we had, I think, there could not have been a better man. I am very sorry to say I have lost him; he has gone to a better appointment at Dunfermline High School.

5146. Did he maintain good discipline with the boys?—Yes.

5147. Do you find it improves their conduct in the other departments?—I think so.

Time.

5148. Then do you say that you have half an hour per week?—Yes.

5149. And you consider that not sufficient?—Yes.

5150. We have had that allowance pronounced ridiculously small?—I think it is.

5151. How far would you go then?—Of course, in introducing that as a new subject, we would require, in the first instance, to consider what subject on the time-table could be eliminated.

5152. Would it be necessary to eliminate anything?—Well, it would in my case.

5153. Would it?—Yes, because I have a very heavily burdened time-table.

5154. Are you fuller than in other schools?—Yes, because, having a secondary commercial department, I feel it to be my duty to teach a certain amount of the secondary subjects that are taught in the secondary departments, so as to give the boys a fair chance in passing on, so as not to lose time, and in that way my time-table is pretty well burdened.

5155. But you think it worth your while to eliminate something in order to give much longer time to physical training for the children?—I would. I think two hours a week on the Continent is the minimum, as far as I have read.

5156. Would that be considered a burden by the teachers?—I do not think so, except with some who consider anything except 'grinding' a waste of time.

5157. Mr Shaw Stewart called your attention to your statement that you feared that some of the teachers did not appreciate this physical training; I think this is the first time we have had that brought before us?—What I mean by that is that some have a wrong conception of what physical training really means. You have one teacher who goes into it from the physical training point of view, while another one may go through it just in routine fashion. That is what I mean.

5158. Quite so, but if the Department insisted upon physical training having greater attention, both the opinions of the School Board and of those teachers would be brushed aside?—Yes.

5159. And on the part of the teachers—those who are competent to teach physical training—you would find no objections from its being a greater burden upon the day's work?—I do not think so; and if they were thoroughly trained themselves from the beginning, both in physical exercise and drill combined, because I think the two are joined together, they would then go to their work from a different standpoint. What I refer to is the man or the woman who has not had the training, or very little of it, who simply goes through it in a routine fashion.

5160. But in the new condition of things, it will come about that there will be a different feeling on the part of teachers altogether?—Oh, certainly it will come about.

5161. I think you said that in your opinion continuation classes should be compulsory?—Yes, that is my opinion.

5162. Up to seventeen years of age?—Yes.

5163. Then in the case of boys, would you go on, as one of the subjects in the continuation classes, with physical training?—Yes.

5164. And military drill also?—Yes.

5165. You would carry that department a stage further than in the school, giving military drill?—Yes, certainly; not to go over the same subject again, or the same part of it again, but to go on a step higher.

5166. Do you think without compulsion that the boys would go to the continuation classes, either to the military drill or anything else?—Without compulsion, well, a good many of them, I should say the majority, would not, sir.

5167. You advocate the introduction of the cadet corps. Would that be sufficient attraction to boys over present school age?—I think, if it were begun early in school age and continued throughout, there would be a greater chance of continuing it in the continuation classes.

5168. But if during school age where would you find the money; what would the parents of your

boys say?—I think there are ways and means of getting over that. For instance, in the starting of my gymnasium, I got up a school concert by which I got more than sufficient to meet the requirements. There are ways and means of getting it, I think, if people are willing.

5169. That is to say, in some schools they could find the money?—All schools, I think, could do a good deal to help themselves.

5170. We have been told by some witnesses that it would be an impossibility in some schools, and on that point the parents would rebel; it would mean an expenditure of about £3 in the first place?—Well?

5171. Perhaps in your High School you could get a cadet corps attached to the school. Well, now, if so, you would get no military drill for the boys in continuation classes; they would have had sufficient drill in their cadet corps?—Yes.

5172. Could not something be added on; could the drill in the cadet corps not be restricted so that when they left school they might go on to something higher?—That is to say, restrict the drill of the cadet corps while under school age, and then advance to the higher branches, say company work after?—Yes.

5173. That is quite possible?—Of course, to be thoroughly carried out it must be graded, and this last part of it should be the part that would be most attractive.

5174. Then I think you used the expression—or its equivalent—that some objected to the military drill for fear of the boys joining the army?—Yes.

5175. Is that prevalent in Inverness?—I do not think so. I have heard it in discussiug the question outside, but I have never heard it from parents.

5176. Upon what is that based, the objection to the boy joining the army?—It is a general impression, I think, that the intention of this Commission is to make soldiers of them; there is a general impression of that kind.

5177. And do you think that that sentiment has been brought to the front since the remit of this Commission was published?—No, I would not say so.

5178. Is it not connected with the old Scotch feeling about the army—when they spoke of a boy or a man having gone for a soldier they meant the wreck of his whole life?—I think it is the remnant of that.

5179. It is not the fear of militarism?—No, I think it is just the relict of the old opinion that when a man went to the army he went to the bad altogether.

Leisure time: interference with Saturdays undesirable.

5180. *By Mr Fergusson.*—We have been told by one witness that the Saturday whole holiday for children was a mistake, and that the children are out of a job, and their parents would much sooner be without them, and it was suggested that the children might be brought together in a central place, and that would be a good time for physical training, it would not imply any more work on the ordinary teacher of a school, but would be under special instructors, physical or otherwise; now, what do you say to that—say for two or three hours on Saturdays?—No, I do not think I would advocate that.

5181. You would not?—No.

5182. Why?—Well, in the first place the pupils look upon Saturday as their day, and I think you would have very great difficulty in getting them together.

5183. Then you do not agree that they are out of a job, and that they would be only too happy to do something, that they would sooner go to school than be idle?—No, I do not think so, sir.

The witness withdrew.

Mr William Bruce, M.A., M.D., examined.

5184. *By Professor Ogston.*—You have several qualifications; I think you are an M.A.?—Yes.

5185. And a Doctor of Medicine?—Yes.

5186. And an honorary LL.D.?—I am.

5187. And you have had a very large medical experience?—More than forty years'.

5188. You have had experience as a general practitioner for a long time?—Yes.

5189. For twenty years?—For thirty years.

5190. In various parts of Scotland?—In Aberdeenshire and Ross-shire.

5191. And you are also Medical Officer of Health?—I am for Ross and Cromarty.

5192. A very large district?—Yes.

5193. Embracing large towns and poor country districts?—Not many large towns.

5194. But a good deal of contrast between the best and the worst?—I think I ought to say not so much as usual; that the towns are mostly country towns—Tain and Invergordon; Stornoway first, which is the biggest of all.

5195. You are also a consultant, are you not?—I am.

5196. And of late years you have had a very large experience in consultation?—Well, I have had a certain experience; yes.

5197. And you are also a member of the Medical Council of Great Britain?—I have the honour to be the direct representative of the Scottish practitioners in the Medical Council.

5198. And have held that for many years?—I am now in the fourth quinquennion; that has just begun.

5199. That is sixteen years?—That is sixteen years.

5200. So that not only as a general practitioner have you been familiar with all kinds of medical questions, but you have dealt with questions of general health and other things that do not fall within the province of the ordinary practitioner?—That is so.

5201. Have you been a member of the School Board?—I had been Chairman for some years of the Dingwall School Board; I am not Chairman at present.

5202. What years were those?—Well, I could not specify, but I should think it is two years since I retired, and some years before, I was Chairman, and before that I was a member.

5203. Have you paid any attention to the question of physical training?—I have paid particular attention to that question.

5204. As a part of general education?—I have.

Physical training: health.

5205. And have you formed any opinion upon it, regarding the theory of it, that you would like to submit to the Commission; could you guide us to any principle that might be aimed at in applying physical education as a branch?—Of course, as a medical man my first reason for insisting on physical training is the health reason.

5206. That it promotes health?—Yes, I feel that very strongly.

5207. You think that a healthy child should receive not only mental but physical training?—I am entirely with Professor Huxley in that; I think it should stand exactly on the same level.

5208. And when a child has once been rendered healthy by a judicious combination of physical and mental training, there is no point beyond that to which it can be wisely developed?—Oh, well, yes; looking at it as a citizen of the Empire, I think it might very properly be developed into military training.

5209. I suppose that you would consider any excess of mental work tends to disease?—I can say so from my own experience.

5210. And any excess of physical training would also tend to disease?—Oh, yes, I think that goes without saying.

5211. So that in an ideal system of education one should not aim at athleticism?—To put my position—I put it like this, that while you regulate mental training you should also regulate physical training. I think it is necessary that you should have physical

Mental and physical training must be regulated.

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training in the same way; it is advisable to have it under proper control, because I am certain that physical training carried out without proper guidance and without proper advice may end in serious mischief to the human body. That I know.

Moral effect.

5212. It might also impair the balance between the brain and the body, to the deterioration of the brain power?—Yes; and here I might say a word about its moral effect. I think if you have physical training under proper control and management, it is not so apt to run to the excess of idleness and mischief and all sorts of trouble, and hence that is another reason for having it under proper control; that you regulate it.

5213. Is the balance between a sound mental condition and a sound bodily condition more easily disturbed in children than in adults?—Yes, much more easily.

Girls.

5214. Is it more easily disturbed, do you consider, in girls than in boys?—Yes, I should think so, simply because their nervous system is 'higher strung'—to use a common phrase.

5215. And, therefore, an ideal physical training would require to be a matter very well thought out?—Clearly.

5216. And applied judiciously?—Yes, most certainly.

Physical training: should begin in nursery.

5217. Is there any special period of a child's life at which you consider the balance between the mental and bodily health would be more readily disturbed than at others?—I have ventured to say, and I hold to it, that physical training should begin in the nursery; luckily the first thing that happens to a child when it is born, is that it is put in a bath so that it exercises its lungs. The due exercise of the lungs is the most important thing at an early age, and speaking from my own experience, even my own family, when I look back to it, I think that the physical training which would end in improved development of the chest is very frequently neglected, that it must be done in a systematic way, not merely left to chance, but done systematically, having the object that you wish to attain properly in view.

5218. So that dealing with the question of school life, you think that physical training is important to be initiated at once and to continue to the end?—To be initiated at once and to continue to the end.

Morals.

5219. Is the period of adolescence (puberty) a specially tender one?—I think this is one of the most important points of all from the moral point of view. I think it is held by everyone who has considered this question that physical training, the actual tiring as it were of the muscles, is a great bar against many immoral practices. I think everyone allows that the mere training of the muscles, the mere tiring out of the system, has a stimulating effect which reduces the chance of vice greatly.

5220. And that observation you would apply to both sexes?—Well, I would not like to apply it so much to girls, but I certainly apply it to boys, and no doubt in a measure it holds good with girls also.

5221. You do not think that a judicious physical training would adversely affect puberty in boys?—The opposite.

5222. Nor in girls?—Under certain restrictions and precautions.

Physical training and mental development.

5223. Do you consider that physical training endangers subsequent mental development?—No, but I am quite satisfied in my own mind, having thought a good deal on that subject, that you might nourish the brain at the expense of the body. It is no use having good brains and well-developed brains unless you have a muscular system which will enable the man who is trained in that way to lead a healthy life, and if I go a step further, I may say that I have known cases in my own experience of men who have neglected their bodies so as to induce disease, but at the same time no doubt these men, and I have one or two in my eye, were great scholars.

5224. And conversely do you think that a man may endanger his mental ability by devotion to physical exercise?—Not for one moment if, as I began by saying, all this is done under proper restrictions and precautions. If it is done under rule and kept to that and under wise advice on the part of the teacher or trainer who gives the physical exercise.

5225. But a national system of physical education should not aim at producing athletes?—Oh, certainly not.

Me... phy... trai... obj...

5226. Are athletes short-lived?—Pardon me a moment, that a national system of mental training should produce great scholars, I am not quite sure that that is the object; I think it is the opposite. The way that I look at it, as a practical man having to do with children and looking round the world, is, you want to deal with an individual and put him in the best possible condition both mentally and physically.

5227. Athleticism is likely to shorten life, I suppose?—I have known it have a bad effect.

5228. But judicious physical training is not likely to shorten life?—It should lengthen it.

5229. Are there any precautions that your experience suggests as advisable in the case of physical training in boys?—No, I have thought of that. I am not aware that such teachers as I have come into contact with have ever attempted anything beyond what is right. The person employed in Dingwall is a retired sergeant, and I have never seen him encourage the least attempt beyond what was quite within the capabilities of the boys.

5230. You have seen physical training carried out in many diverse districts, or at least know of its being so?—Yes, I have known something of it.

Pla... cov...

5231. And you do not think that such difficulties as poor playgrounds, rough playgrounds, exercised on with bare feet or anything of that sort, are serious drawbacks to carrying out physical training in all the localities that you know of?—Well, take Dingwall, which I know thoroughly; the playground there is very damp, and very dirty, and I think if anything of the kind is to be done it will lead to what I think will be a great reform, it will lead to the covering in of a large part of the playground. We have no part covered in, and I think it is a great mistake, and I would be very glad to see that forced upon the school authorities, because on other grounds the children must play, that is physical exercise, but on a wet day, their feet all wet, and amongst mud, it is a source, to my knowledge, of great complaint by the parents.

5232. But still those difficulties are not an insuperable bar to the introduction of physical training in all the diverse quarters that you are Medical Officer of Health for?—Oh, no; and I notice throughout the country that they have taken to erect sheds and shelters for the children independent of physical training.

5233. It could be applied in the best school in Dingwall, and in the poorest school in the Hebrides?—Quite so.

Gi... pr...

5234. Then about girls, could you advise us regarding any precautions that it would be wise to keep in view in carrying out the physical education of girls?—Well, I think myself—and I hope the Commission will not think for a moment that I am arguing for professional reasons in favour of the provision, because it does not affect me personally at any rate—I think clearly that there should be some sort of consulting medical man in connection with every School Board; a man who could be consulted upon different points.

5235. You forgive me, doctor, I will take you upon that point later on?—Then will you ask the question again?

5236. I was asking if from your own individual knowledge there are any precautions that you think the Commission should keep in view provided they were instituting a system of physical training for girls?—Yes, I think there ought to be precautions.

5237. And regarding them, what has your experience led you to conclude is necessary in the way of precautions?—Unfortunately I cannot help the Commission, because I do not know of any great amount of physical training in connection with any of the schools that I am acquainted with where girls are taught; I cannot speak practically.

5238. I might ask your attention to some of the points that have come before us; the question of corsets has been mentioned?—I think the corsets should not be.

5239. And dress in teaching?—I think you must have a special dress.

5240. You think that is absolutely indispensable?—Oh, yes, I think so.

5241. We have been brought into contact with various systems of physical training, some of them involving gymnastics and others mere motions, physical exercise rather than drill or gymnastics; do you think that for all of those a dress would require to be provided for the female children attending all the board schools?—I am sorry to say that I do; I have thought of it, and I do think so.

5242. I wished just to hear your deliberate well-considered opinion. Then in regard to the teaching of girls, do you consider that female teachers are necessary to teach them physical drill?—I do not see any reason why women are necessary; I have not considered that; I think it would be advisable to have women where they could be got.

5243. I might put my question otherwise. A girl from the first year of entering the school to the last year of leaving it, do you think that the whole of her physical training education might be conducted by a man?—Well, I am not quite sure. I would like to say this, that I do not see why the bulk of it—most of it—should not be conducted by a man. I have been a strong advocate for mixing boys and girls, and I do not see why they should be treated differently; but there may be special cases, I would not like to say.

5244. May I take the question of swimming; it has been suggested that that might be a branch of physical education. Do you think that the instruction in swimming could be given to girls by a man?—Up to a certain age, I should think, probably.

5245. You would not advocate the use of women teachers for teaching girls swimming?—Oh, certainly I would advocate it; I thought you were talking of men teachers.

5246. I was talking of both to see what was practicable?—I should think, as a measure of prudence, that at a certain age it should be a woman who should teach, and I do not see why a woman should not teach them all through.

5247. If instruction in swimming were made a part of physical training, you do not consider it absolutely necessary that there should be women teachers?—I think it is highly advisable, something to be aimed at.

5248. Would you recommend dancing?—I do, very strongly.

5249. As a physical training for children?—Yes.

5250. Dancing and kindred motions?—Yes.

5251. For both boys and girls of all ages?—Of all ages; yes.

5252. Is cooking a necessity in your experience and in your district?—Cooking is an excellent thing, but how far the cooking that is being taught is doing any good—if my friend will pardon me—I am not quite sure.

5253. At any rate it is a part of physical training, I suppose?—No, it is not a part of physical training.

5254. And so we may leave the subject there, knowing that in your district you have not found reasons strongly to recommend it?—Oh, well, we have recommended it—but I am not quite sure I am here to say that we have recommended it—and are taking our own part in having cooking lessons; I am not quite sure of the effect, but that might be my ignorance.

5255. Could you tell us whether there are many essentials enter into an ideal physical training; is there anything beyond mere motions and drill and rhythm in it?—Of course, looking at it as an ideal training, it should be a system which is adapted for training every muscle in the body, more especially, as I said a little while ago, the muscles of respiration. Every muscle of the body ought to be brought into action, and, so far as I understand the Swedish system, it aims at that.

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Respiration.

5256. The motions of breathing and balancing and respiration are all meant to be trained in an ideal system of physical training?—If it is not interfering with the course of the examination, I should like to say a word about respiration, because I have some ideas about this respiration. Having studied this subject a good deal, I am strongly of opinion that the act of fixing the attention on lessons interferes with the breathing. It is said that stooping and so on and bad desks do so, but I am absolutely sure that the mental attention reacts in a bad way upon the breathing, and if that is so, I do not think that I could use a more potent argument in favour of counteracting that by some physical exercises. I am quite sure that the breathing is an operation which is described as automatic and necessary, like any other operation of the body may be neglected, and the consequence is the chest is not developed, and you have a predisposition to bring on disease, and if the effect of fixing the mental attention steadily is to neglect the breathing, I think you are bound on the other hand to provide the remedy, that is by special training of the respiratory muscles.

5257. My next question, although it appears not to really bear upon that is, have you in your experience seen a good deal of improvement in schools?—Great.

5258. Better light, larger rooms, and better hygiene altogether?—Yes, that is so.

Ventilation in schools.

5259. Do you think that that improvement, apart from physical training, is sufficient to account for the improved condition of children in schools where physical training has been available for years?—I am very glad you asked me that question, because, no doubt, while the schools have improved very much, on the other hand the amount of time devoted to lessons has increased greatly—very largely—and I hold and have felt for a long time that with all due respect to spending money, and with regard to the regulations of the Department and so on, especially from the medical officer of health point of view, that the provision for ventilation and air in schools is decidedly insufficient. I hold that the provision, which has certainly been much enlarged and increased, is still greatly below what it ought to be in an ideal schoolroom if you wish to have the children in a perfectly healthy condition.

5260. That would be an argument in favour of physical training and development of breathing and so on?—It is so.

5261. But do you think that the testimony that we have received regarding the benefit that physical training has produced is explicable on the supposition that the physical training has produced no change, but that all the benefit has been from larger classrooms, better air, and better hygiene?—I do not.

5262. You consider that the physical training has been a benefit and independently of anything else?—Independently of that certainly.

Time for physical and mental training.

5263. Could you tell us what theoretically should be the proper proportion of time devoted to physical training and mental training in a school?—No, I am sorry to say I could not.

5264. You place them on a point of equal eminence in regard to importance?—I do.

5265. But you have no guidance for us in regard to the relative time?—I ought to explain; while I do think so, it does not follow that it is necessary to devote the same amount of time to each.

5266. Quite so; that I quite understand. Do you think half an hour a week is sufficient for physical training for a child?—I think it would be ridiculously small. Perhaps I might explain, as, having to do with schools, as Chairman, I know the difficulty of fitting in everything, and, hence, while I am advocating very strongly physical training, I would not advocate anything which would seriously interfere with the ordinary school work. I can say that I have tried my hand with very poor results on school time-tables, I leave that entirely—one must leave that—to the masters and to the department.

5267. There are one or two other points that, from your large experience, I should like to bring out your

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opinion upon. We have heard of many other things that are not, one would judge, a necessary part of physical training, such as ambulance work; do you consider that ambulance is a form of physical training?—I do.

Ambulance work.

5268. And you would recommend that—perhaps not to every child at all years, but children as a rule—some form of ambulance instruction should be given?—I would, most certainly.

5269. Could you give any reason for that opinion?—Well, I look upon it as a good means of physical training, and I look upon it as an interesting thing, and also I consider that, like the other training, it is a training which will be carried out later in life to a larger extent.

5270. Would it be of distinct benefit as saving of life and suffering occasionally, do you think?—I am not quite sure about that.

5271. In the case of children, you could not be quite sure about that being a serious matter?—No.

Saturdays: whole holiday undesirable.

5272. The next point I want to draw your attention to is the Saturday holiday; do you think that is a necessity?—Well, I am old enough to have been attending school when there was no Saturday holiday, and I am very strongly of opinion that the whole day on Saturday devoted to play for the poorer children is a great mistake. Now I can speak from large experience about that, because if you go amongst the poor people you will find that on a wet day, with the children at home, they do not know what to do with them; they would be thankful if they were at school on a Saturday or doing something; they cannot amuse them, cannot regulate them, cannot manage them, and they are simply in the way, and just giving them a long whole day on Saturday with nothing earthly to do or to amuse themselves—I do not believe in it.

Manners.

5273. You have told us that physical training, properly applied, has a beneficial influence on morals and development; do you think it has a beneficial influence upon manners?—Most certainly.

Medical inspection: what it should include.

5274. Now we come to the question of the medical inspection. I have a number of points that I would like to put before you regarding that. I gather that you think medical inspection is needed?—I do.

5275. It is needed for the scholars?—Yes.

5276. Is it required for the teachers?—Oh, yes, certainly; but of course a teacher is a grown-up man, he is independent.

5277. And for buildings?—And for buildings; yes.

5278. And equipment?—Yes.

5279. And there are various special points such as eyesight?—Yes.

5280. You think it is required for that?—Oh, very much; and teeth.

5281. And ears?—Especially teeth.

5282. Anything regarding ears—ear disease?—Oh, yes, in cases of discharge from the ear, it would be of very great importance that they should be seen and recognised, because they lead, as we know, to great mischief, and also, of course, with relation to the throat, which may lead to the discovery of scarlatina or diphtheria, or some of those things.

5283. Those points neglected sometimes lead to death?—No doubt; in the case of diphtheria I hold that it leads very, very largely to the spread of the disease.

5284. And in the case of ears sometimes to sudden death from brain disease?—It is so.

5285. Well, now to go back a little again, would you examine the scholars for anything else besides those things, would you subject them to a physical examination as to the chest, spine, knock-knees, flat feet, by stripping them and examining them?—Yes, I think there ought to be a schedule of all those points, which should be filled up, and if I might go back a little, the doctor might give a warning to the drill instructor as to not forcing a child to more than he is able, just as we have to give certificates against playing football and so on.

5286. We had a witness before us from your district, and when that question was put to him his opinion was that that could be dispensed with; that the average intelligent teacher interested in his profession could draw the doctor's attention to any medical defect without the necessity for such a careful examination; pray tell us your opinion?—Well, the answer to that is in the simplest possible form, that to my knowledge there is no end of these defects that have been spoken of that have not been recognised or taken any notice of. I do not think there is any attempt, for instance, to make out whether a child is short-sighted or not; I never heard of any teacher making any attempt of that kind. I may have heard it once but not more, but it is of the first importance.

5287. And all this is to the permanent detriment of the child?—And take another case of a deaf child, it might be said an ordinary teacher ought to know whether a child is suffering from ear disease; but does he? I say he does not.

5288. And now regarding the teachers themselves, do you think that the teachers that you know are all fit to teach physical education to children?—Oh, no.

5289. Some are old; too old, are they not?—Well, I do not know how old a man may be that may not learn, because if I may diverge for a moment, we had students who were grandfathers and grandmothers studying Nature Knowledge in Dingwall, the other day, and learned it too, so far as to be able to teach it. I think a man might probably, however old he was, if he had enthusiasm; that is what is wanted.

5290. On looking through your wide and varied district, do you think that you know of any system of physical education which all these teachers could adequately teach in their schools?—I see no difficulty.

5291. You think that there is a system of physical education that could be taught by every one, however old, however fat, for example?—I think he could teach all that if he did not aim too high in country schools; he must not do so, of course.

5292. The system, of course, must be adapted to the locality?—Of course in Dingwall we have a retired army sergeant.

5293. Do you think anything regarding the musical faculty could be inspected by a medical officer?—I doubt it.

5294. What diseases prevail in children in your district which impede their utility as citizens?—Well, I should think that a general want of muscular development and the proper use of their muscles is almost common to the most of the children, and I hold that that does impede their usefulness; apart from a military purposes altogether, I think it does impede their usefulness.

5295. Does that statement refer both to the rural and to the urban districts?—Yes, it does.

5296. Have you much flat feet and orthopædic deformity?—Yes, a good deal.

5297. All of which would be greatly benefited by a thorough medical examination?—Yes, it would.

5298. Then as regards the medical officer, would you make him a special medical officer of the School Board without any other duties?—We are in a state of flux about that, and I should think that if it were possible it would be well to make a combination of a whole county, and possibly to pay one man to do it. Of course if you specialised the work you would get it much better done, but I think in most of the instances you would have to trust to the local man.

5299. The expense, of course, would be very great, almost prohibitive, if every School Board had to appoint a medical officer who had no other duties?—It would be impossible as School Boards are constituted; it might not be impossible with a County Board.

5300. It could not be worked out generally, suppose they had no other duties?—Oh, no.

5301. Then what duties do you think would be most naturally combined with those of a School Board medical officer?—There is one duty which practically, I think, might very well be combined with those duties I have spoken of, and that is the duty of giving certificates for absence. That is a difficulty, as Chair-

man of the Board, that we had to face. In the case of a scholar absenting himself, we made it a rule that he should have a medical certificate, but they said: 'We are not able to pay for a certificate,' and we were in a hole.

5302. Do you think that a medical officer of health's duties could be well conjoined with those of a School Board medical officer?—You mean the medical officer, say in Dingwall?

5303. You are a medical officer yourself; say, doctor, would it be possible for you or one situated in a similar district to yourself?—Well, I should say this, I think—but it is on the spur of the moment—that if we were dealing not with separate School Boards but with a large County Board, the medical officer of health, if he had nothing else to do, no other duties except health duties, in our county, he could very well, if he had to deal with one board, then he might do it by periodically visiting or in some other way.

5304. Of course you would require a medical man of very high qualifications for such a post?—Oh, clearly I see that difficulty.

5305. And he would require a very high salary?—Yes, but it might very well be that it would be part of his duties as medical officer of health for the county.

5306. That brings out what I wanted your opinion upon. You consider that the expense of instituting medical officers to School Boards would be prohibitive unless their duties were conjoining with something else?—Yes; but I think at the same time, as long as local School Boards last that it would be good policy on the part of the Department, or the Board, to have a man to whom they could apply, who probably would not have to go through the thing in the minute way that we were talking of, but to whom the schoolmasters might apply in cases of difficulty.

5307. Could that be conjoined with the duties of parochial medical officers?—I think it might very well be combined.

5308. You think that the parochial medical officers, of whom you have knowledge, would be fit to undertake the duties of School Board medical officer?—Yes, but with the restrictions that I have said. I think if it is to be had in the ideal way that it would require a very highly specialised man, and you could not expect the parochial medical officer to be a specialist.

5309. I see you would both have them and a consultant?—No. I think if you had one man, probably you would not need the second man. But I do not know when you may get a specialist, and therefore I would recommend, in the meantime, that you take the other man; but he does not go so deep into the subject, as it were.

5310. I do not quite understand you. Suppose you had to put this in force to-morrow, you would appoint your parochial medical officers, and then you would appoint a specialist, say in main districts, who would advise in cases of difficulty?—No, I would not appoint a specialist, unless we come to a state of things where there is a county School Board.

5311. To sum it all up, I understand that you consider that physical training cannot be introduced as a compulsory branch of education without some form of medical inspection?—Well, I think it would be advisable, at any rate.

5312. Now with regard to abnormal children, do you think there is a large proportion of weaklings amongst school children?—Yes, a good large proportion.

5313. Would you place it as high as five per cent. to ten per cent., as we have heard?—Yes, I think it is not unlikely. I am sorry I have not the figures.

5314. And then you have actual deformity, such as curved-spine or rickets?—Not as high as that, of course.

5315. Is there a large proportion of them—a sensible proportion of them?—Well, a sensible proportion.

5316. Requiring medical inspection?—Yes.

5317. And cripples — actual cripples? — Yes, it is so.

5318. Have you any incurables; have you ever had to deal with the question of educating incurables?—No.

5319. Neither their mental training nor physical training has come before you in your School Board experience?—No; they are simply excused; they are struck off the roll.

5320. They get no education?—They get no education.

5321. Except what may be given to them voluntarily?—No. There has been no attempt in our quarter to do it.

5322. Tubercular children, children with tubercular glands, are not quite so prevalent in Scotland?—I do not think they are so prevalent in Ross-shire as in Aberdeenshire. I do not know why.

5323. But you think that another reason why the medical officer might be of value—that he might discover the early existence of these constitutional diseases?—Yes, very important.

Games *plus* physical training.

5324. Then regarding games, do you consider games a form of physical training?—I do.

5325. And that they might advantageously be substituted for it everywhere, or in certain districts?—No, not from my point of view, because, in the first place, it is a purely voluntary thing, and in the second place, from paying some attention to that, I am inclined to think that probably the children who most need exercises or games are precisely the children who do not take them.

5326. So that the relative value of physical training very much exceeds that of training in games?—Well, I think the physical training would fill up the gap and supply the deficiencies in games, to put it like that.

5327. So, in the case of games, do you think that any games might be introduced which they might practise in place of physical exercise or gymnastics?—Yes, but luckily, in girls especially, and boys too, you can combine both the games and the physical exercises, and I think it ought to be the duty of the teacher to try to combine the two—to reduce the physical exercise to a game, if he could.

5328. And all this you could carry out in every part of your district, both in Dingwall and the remotest district, in the buildings as they at present exist?—With the exception that there is a certain amount of covering in a playground, but it should be extended.

Covered sheds

5329. Would you consider that, say, in the most rainy district of the Hebrides, there ought to be some covered shed in which the children could exercise?—I think it is more important that there should be covering in the Lewis in the rainy portion than in the dry portion; it is more important.

5330. And that physical training cannot be well carried out as a branch of national education without some such provision?—I am sorry to say that it is not possible, but on other grounds I think it is advisable.

Need for physical training.

5331. *By the Chairman.*—I just want to ask you one question. You say that there has been an improvement since physical training has been in use. What was wrong with children thirty years ago, and also, how is that evidenced by the present class of more or less middle-aged people?—I am not sure that thirty years ago, as I said, it was so necessary—physical training—because my recollection of it is that we were not so much tied to the school, and that we had more games, and I look upon physical training as filling up the gaps, or supplying the want of games and the want of outdoor exercises. Then I was a country boy. I hold that country boys have not the same need, at any rate for it, as town boys.

5332. The country boy has not the same need?—The country boy has not the same need.

5333. Not even now?—I am not going to say he has not got the need, but he has not the same amount of need. I tried to look into that a little, and I think myself that a good deal of the rheumatism and stiffness which affect the ordinary ploughman and makes him short-lived—because he is short-lived—is from want of the exercise which he had not learned when he was a boy.

5334. Then you would not allow, I suppose, the

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fact that, as the result of considerable muscular exercise and development, rheumatism follows?—The very opposite.

Physical development: after effects.

5335. That is your opinion; I mean from your experience?—I have a special experience of rheumatism, I may say, and my experience is that rheumatism is much more crippling and has a much worse effect upon people that have more or less neglected the use of their muscles than in the case of people who actively use them.

5336. I did not mean people who are actually still using them, but people who had used them and then had disused them?—I say 'go on using.' I do not think that any man, however old he is, should disuse physical exercise. That is one of the great reasons for teaching him early.

5337. Still, knowing the fact as you do, that people are inclined to disuse them, you still say that although they have had physical training, and muscular development has come to them thereby, they are none the worse for it?—I say, positively, they are all the better.

5338. When they begin to disuse it?—I say they are all the better, because you have got the man into the way of using his muscles, and I need not say to you here that it is a pleasure to a man to use his muscles; and I think that the chances are that he will keep it up; and I am quite sure if he does that he will be less subject to rheumatism.

5339. You say Ross-shire is your only district?—Yes, Ross and Cromarty.

5340. You do not go into Inverness?—No.

5341. Have you any experience of Roman Catholic school establishments?—No.

5342. You would have if you had been in Inverness-shire?—I have been at Fort Augustus.

5343. But you can tell us about them?—No; I do not know the working of Roman Catholic schools.

5344. In your own district there is no Roman Catholic school?—In my own district there is no Roman Catholic school.

5345. You have the Black Isle, too?—No.

5346. Are there none there?—No; not nearer than Beauly, that is Inverness-shire.

Cooking.

5347. *By Sir Thomas Coats.*—Talking of cooking in the schools, you thought cooking was at present taught with comparatively little advantage; am I right in thinking that that is what you expressed?—Well, I did not want to express an opinion; I would not like to say that, but I am not convinced that it is an advantage.

5348. Is one of the reasons that you are not convinced the kind of cooking taught or the appliances by which it is taught?—I think it is like this, the fault lies here, in my opinion—but it is a mere matter of opinion—it is not kept up long enough or go far enough. It is unfortunately, like many other things, a smattering; I do not think it is wrong in the kind of things they cook; with us it is not in Dingwall, at any rate.

5349. Then in your district is there any necessity to teach the young women cooking, so that when they become mothers they can give suitable food to their children?—Oh, the greatest necessity, of course.

5350. But you do not think that the teaching that they would get in school is of much advantage at the time they get it; they are perhaps too young, or else they have not sufficient time devoted to it in school?—I am afraid of that.

5351. Is it because they are too young or because sufficient time is not devoted to plain cookery?—There are so many things in school life begun and not kept up; it is because they do not keep it up.

5352. And you do not think they would keep it up if they had a little more time devoted to it?—I am afraid not.

Accommodation: generally inadequate for health reasons. More floor space desirable.

5353. *By Sir Henry Craik.*—I wish to ask you a question upon two points that you raised. You said that you thought the accommodation in schools was generally inadequate?—Yes.

5354. Have you paid attention to the exact requirements of children?—I have.

5355. As you are aware, we require eighty cubic feet?—Yes, it is so; what I rather desiderate is the want of floor space.

5356. Ten square feet?—I do not think it is enough. I want to say that, but I want to qualify it. I do not want an impossibility, but I want to say that, looking at it from the medical officer of health point of view, you get a great many children with dirty clothes, and perhaps with incipient disease, congregated together, and if you could get what you would like, you would spread them out more, and no doubt the fact that they are there, more or less close together, and kept there for some time, unless there is some distinct provision outside for counteracting that, I think it has a bad effect upon the children.

5357. Do not suppose that I am at all going against your view?—Oh, no.

5358. Because, as you know, the Department is progressive far more; but I want to have the support of your opinion in regard to that, that you do not think that the demand of the Department of ten square feet is adequate?—That is my deliberate opinion; I have taken some time to think over that.

5359. And yet, of course, we have great difficulty in getting School Boards to fulfil that demand?—I am aware of that, and the School Boards have difficulties in finding the money.

5360. But it is floor space especially which you agree with the Department in thinking is what is most required?—Yes, that is so.

5361. Then with regard to the Saturday work; you think it is desirable that we should claim the time of the pupils for a certain portion of Saturday; that it would be for their advantage?—If you are to claim it, it must be for physical training.

5362. For physical training; I quite understand?—Not for any more books.

5363. For physical training?—For physical training.

5364. And that a considerable number of hours on the Saturday forenoon or afternoon given to physical drill would be for their advantage?—Well, say two, or, at the outside, three hours.

5365. It might bring them together in a large field outside the town—a number of schools together?—Yes.

5366. And the only objection to that is that it would place too much of a strain upon the teaching staff?—Of course, if it is to be physical training, and if you were to get the boys together—which is an excellent idea—then I think it would not be the ordinary teacher at all, it would be the physical teacher.

5367. Quite so, that is what I wanted to come to; really that objection which is raised to it on account of the strain upon the teaching staff is not a real objection at all, because the teacher that we would want would be the physical exercise teacher?—That is so, Sir Henry.

5368. And that otherwise, looking to the advantage of the pupils alone, it would be distinctly a good thing to claim a certain part of their Saturday?—I have not the smallest doubt of it with regard to the poorer children.

5369. You quite agree with the view we take in the Department, I may say?—Quite so.

5370. *By Mr Alston.*—You said that any system of physical training should be a well-thought-out system?—Yes, sir.

5371. And that it should be under proper control, and wisely regulated? There are, as you know, a great many systems of physical training?—Yes, I know.

5372. Is there any objection to that if they were all well thought out, and properly controlled; is there any objection to having six or seven different systems as we have now?—Of course that comes to be a question of organisation. I should think it would be a good thing that the Department should give some hints about it; it should be more or less uniform, but it is a matter of detail.

5373. You mentioned a part of physical training which I think is called 'breathing exercise'?—Yes.

5374. Do you know any system which is conducted

entirely upon the exercise of breathing?—Not in any system that I have looked into; it is a part—and a very considerable part—of the Swedish system, which I have more particularly been in a mild way studying.

5375. Another point is this; from your long experience in that district—an experience common to the west of Scotland—has there not been a great change in the diet of the people?—Yes, a great change.

5376. They have now given up porridge and broth, which used to build up the constitution, and gone in for tea and slops and such food?—Yes.

5377. Do you notice any change in the population in consequence of this?—Yes, that is a remark I wanted to make—perhaps it might be of some interest to the Commission, and that is that many of the children, as children, are what a medical man calls anæmic—bloodless, and ill-fed looking; but I am bound to say—and I have been very much struck in Lewis with that, where children are very miserable—when they grow up to be men you could not find stronger, healthier, more buirdly-like fellows. In Lewis a great many children die, but they breed as fast as they die.

5378. The fact is you do not think there is any deterioration in the race?—I do not think it is so in the country. I cannot say much about large towns—I know next to nothing about large towns; I do not think there is any appreciable deterioration of the general standard of the adult population.

5379. But have you noticed a considerable amount of anæmia? That would indicate a deterioration?—Yes, but I have also said that when you get them at a later age that has all disappeared.

5380. And of course physical training in schools duly regulated would help that largely?—Oh, no doubt it is bound to help it.

5381. Then as to the whole holiday on Saturday, would it be of any advantage to have two half holidays in the week. In England I understand that is often the practice?—It is there again I think that that is a question that must be worked out with the schoolmasters. It is a dangerous thing to get children off, and get them on again as it were. Further, I should think as a measure of experience that one day a week—one half holiday—would be enough for children.

5382. Would there be any danger in the use of free gymnastics or the ordinary use of applied gymnastics with apparatus?—I think it should all be done by some man whom the Board can trust, as far as my experience goes there have never been any bad results.

5383. And you think the qualified teacher who has been instructed in physical training would clearly see when the exercise should be stopped?—Yes, but I have said to Professor Ogston that I think it would be a good thing if he could appeal in the case of a particular boy whom he might think lazy. The doctor might say, 'No, he is not lazy, he is sickly.'

5384. *By Mr Fergusson.*—You said, I think, that physical training should be under proper control, the 'wise advice of the trainer,' I think, were the words you used; did I understand that you look forward to the time when you could do without the special instructor—altogether. I mean the time when the ordinary teacher of the school could do all the physical training?—Oh, yes, I think it is quite a thing to look forward to.

5385. Do you think you could do without the special physical teacher just now?—It is like every other specialisation; I think most men of ordinary intelligence, if they had to teach it and had to learn it, would learn it and would teach it.

5386. But you do not think that it would be desirable that every now and then a specialist should come round and see what was being done, and correct any faults, both in the teacher and the taught?—I have said that I think physical education is as important as mental education, and should be equally inspected by a person who knows how it should be taught.

5387. Then you must have a special inspector?—Not necessarily; it might be the ordinary school inspector.

5388. If he had been specially taught?—Exactly.

5389. If you do away with the special inspector, who is going to teach your children on Saturday when you have collected them as you said to Sir Henry Craik?—I think if you are going to collect the children on Saturday, as he suggested, you must have a special teacher.

5390. These two things do not work quite well together; you abolish your special inspector, and then you bring him in as your teacher on Saturday?—Let me explain; I believe in what you can get; I do not believe in impossibilities; if you cannot get your special man and you cannot get them together on the Saturdays, you must get your ordinary teacher to put them through their physical training or drill, and he must learn to do it, and let it be part of his work—of course I see your point.

Girls: special dress.

5391. You said that a special dress was indispensable for girls?—I did.

5392. Why?—Well, it is an *ipse dixit*.

5393. Do you mean for any exercise at all. I see hundreds of girls in all the schools doing physical exercise in their ordinary clothes; I do not mean gymnastics, mind you, just the ordinary physical exercise?—You do not mean to say you train the muscles of the legs in that way. I think they are as important as the other muscles.

5394. There is no special dress?—You could hardly train a girl's legs without some special dress.

5395. Well, we saw them being trained yesterday with no special dress?—Unless it be dancing.

5396. I did not quite understand; do you mean you would have to put every girl into a special dress?—In order that she may be able to kneel and spread her legs, and all sorts of things; that is my idea.

Medical inspection.

5397. You do not think that the teachers could be trusted to see the defects of teeth and eyes and ears and so on?—I hardly think so. As I said a little while ago, he might be taught many things. I do not think he could be taught that.

5398. He does not do it now, but he is not told it is his duty to do so?—I have no doubt there are teachers who could learn to do it, but, take the ordinary run, that is going a little too far; that does require specialisation; I think some of the other things could be done without specialising.

5399. He might see and afterwards call in medical advice?—That is true, but I do not think that is enough; I think it is so important that it should be regularly inspected.

5400. An inspection every school time?—Well, no; I should think periodic inspections.

Underfed children: meals supplied.

5401. Have you had much experience of underfed children in your district?—Yes, a good deal.

5402. What do you do with them?—Well, they are there; you cannot help it.

5403. It is not, I suppose, conducive to mental or physical training?—No. We have done our best, and I have taken a very large interest in getting up school dinners in several parts of the country; where I have seen the thing started it is going on, and I think it has had a great effect and a good effect on the health of the children.

5404. How is that done; do the parents pay?—I always hold that if possible it should be made to pay, and in one school that I know of, it just almost pays; by contributed gifts of produce, at a penny a week.

5405. You think if arrangements can be made that it is very desirable that they should be made?—I think most desirable from the health point of view.

Wet clothes.

5406. What about coming wet to school; what effect has that upon their health?—Well, it has a very bad effect, and as medical officer of health I have tried as far as possible to get some arrangement for drying their clothes, but it is very difficult.

5407. Do you consider wet feet—sitting with wet feet—of importance?—Well, it never did me any harm when I was a boy, but I do not think it is a good thing. I think the wet upper garments especially are

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bad. I think if there could be some means of drying their over garments, such as they could remove when they came to school, it would be of great advantage.

5408. You never tried anything of that sort?—We have tried a little, I think; in one or two schools they have got a little stove and enlarged the porch so that they can dry an upper garment—a cloak or something.

5409. Do you make them take off their shoes and stockings?—No; they do not do that.

5410. I suppose one reason you might suggest for saying that you did not see any great harm in middle-aged people from the want of this training thirty years ago is that the conditions of life are very different now to what they were thirty years ago?—Yes, they are.

5411. And these extra precautions are required to deal with the changed conditions of life?—Yes; and, as I said, you insist upon keeping them longer in school and giving them longer lessons and so on.

Universities.

5412. *By Professor Ogston.*—Do you think it would be advantageous or practicable to introduce physical training into the Scottish Universities—compulsory physical training into the Scottish universities. It has been suggested by a witness; I wish your opinion about it?—I have said before—and I have the very strongest opinion—that opportunities should be given; I have not considered the question of compulsion with regard to boys at college.

5413. My second question is this—Is the number of village halls and their situation in your district such as would enable you to dispense with covered-in playgrounds in connection with schools?—No, I do not think it is.

Continuation Schools: compulsory attendance up to seventeen or eighteen strongly recommended.

5414. Is there any other important point that you would like to lay before the Commission?—If I have not wearied the Commission—and I have tried to be short—there is one thing I wish to say in just two or three words, and that is about continuation or evening schools. We have tried these schools at Dingwall, and it has been a great failure, and it has been a great disappointment to us as a School Board that they have failed; and I was inclined for a time to put the fault upon the masters of the boys, that they did not allow the boys sufficient leisure, but I have come clearly to the opinion that the fault lies with the boys themselves; and I am quite sure that if this system of physical training is to begin in schools—I think that to be right—it should continue in the evening or in continuation schools, and I also think strongly that children should be compelled to attend those schools up to a certain age—seventeen or eighteen. I just want to say that.

5415. *By the Chairman.*—For physical education only?—Oh, no; not for physical education only, but for physical education as part.

5416. Compulsory attendance at continuation schools?—Compulsory is what I ask; I am speaking from practical experience as Chairman of a School Board.

5417. *By Sir Henry Craik.*—Can you give any opinion as to what would be the feeling of parents with regard to that or the community generally?—One must be cautious in expressing an opinion, but my feeling would be that the parents would welcome it. I may say that parents have lost control of the children as they grow up, and this is a thing that is increasing day by day.

5418. For the advantage of the pupils you have no doubt whatever?—Not the least; and I believe myself that the parents would welcome it.

5419. *By Mr Alston.*—And physical training should certainly have a place in the continuation classes?—Yes, certainly a part.

With the consent of the Commissioners, I wish to supplement my evidence as regards (1) the health of Lews children, and (2) on the question of compulsion in continuation classes in schools.

(1) While the extraordinary improvement in the physical health of the Lews young man as compared with the schoolboy may be partly explained by the fact that a fisherman becomes at an early age a journeyman so to speak, earns good wages as a hand in a boat, and is thereby better fed than apprentices of the same age in towns, and perhaps better nourished even than an agricultural labourer of the same standing; I do not think it can be gainsaid that his physical training as a soldier or sailor, to which the great majority of the young men are subjected, does not only set him up in manly appearance, but largely contributes to his general well-being and bodily health. All this is a potent argument in favour of physical training generally to young men of our working population.

(2) In regard to continuation classes, and the advisability of enforcing compulsory attendance in the evenings on young persons attending the same, it seems to me that if a hold is to be kept on these lads up to eighteeen there might well be *pari passu* extension of the rules in regard to 'half-timers.' This relaxation would meet the objection of farmers, crofters, and others who grudge the time spent by young people at school, and are naturally anxious to get boys and girls, living it may be on farm and croft, to help at light jobs, particularly at certain busy times of the year; while to my knowledge many parents desire to have boys and girls at home *through part of the day* in chronic cases of sickness, while the husband is otherwise engaged earning his livelihood.

The witness withdrew.

Adjourned.

ELEVENTH DAY.

Wednesday, 28th May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Professor OGSTON.
Mr M. H. SHAW STEWART, M.P.	

Mr R. B. PEARSON, *Secretary.*

Mr EDWARD ROBERTS, examined. *Mr Edward Roberts.* 28 May '02.

5420. *By the Chairman.*—What do you appear as?—Headmaster of Kingussie school, my lord.

5421. You have your notes before you; would you go through them, please?—The system of physical training which obtains in this school is one which has been evolved by the peculiar circumstances and requirements of the school. Although the number of pupils in the whole school is not large (less than 300), the number of boys in the senior and advanced departments is comparatively large (there being over thirty boys beyond the age of sixteen years), and the whole system of physical training in this school has been formed and graded with the idea of proceeding from simple physical exercises in the elementary parts of the school to the regular military drill in the higher forms. Several circumstances have contributed to the success of the system we have adopted. For the military drill we have the services of an ex-army sergeant, and, during the last two years, several of our senior boys, while attending school, were also members of the local corps of Volunteers, the captain of which is a member of our School Board. There is thus a direct connection between the school and the town Volunteers, so that each boy undergoes during school life a system of training which aims at true physical development, and culminates in the ordinary drill and discipline of a volunteer. *System in Elementary School* — The system of physical training for pupils up to the age of eight years is similar for boys and girls, and consists of simple exercises, ensuring the free action of the whole body. Attention is paid to the correct placing of the feet in walking, while marching to music forms a considerable part of the exercises. These exercises are of short duration, and occur frequently as breaks in the ordinary work of the day. Correct and healthy attitude of the child while sitting, standing, etc., is strictly enforced. After the age of eight, boys and girls are taught separately, boys receiving a course of training in dumb-bell exercises, girls in bar-bell or hoop exercises. At this stage boys are taught the more simple evolutions, such as turning, etc., care being taken that these motions are the same as taught by the drill instructor at a later period in the pupil's education. The time devoted to these exercises is one hour per week, as a rule, divided into three lessons of twenty minutes' duration each. *System in Senior and Advanced Departments.*—Girls in this department continue the exercises with bar-bells, the primary object being that these exercises be simple, and calculated to call into action the less exercised muscles of the body, and thus counteract any injurious effect of close study. These exercises are gone through to the accompaniment of music, and are very popular with the girls. After the age of eleven, boys take ordinary military drill in the playground, the time given being half an hour twice a week. The number drilled at each time is between sixty and seventy, and the sergeant, as a rule, is assisted by one of the senior boys. Last session a pupil, who was a corporal in the local corps of Volunteers, acted in this respect, and the effect was admirable, as a stimulus to greater precision and smartness amongst the other boys. In addition to the ordinary evolutions in turning, marching, and forming companies, etc., pupils are drilled in the physical developing exercises for recruits in the army. These exercises, however, are carefully graded, and, as there is a great disparity in the ages of the pupils, two companies are formed, as a rule, and drilled simultaneously. Suggestions. Suggestions.—(1) With the exception of military drill, which has to be taught in the open playground, very often under unfavourable weather conditions, all the above exercises have to be carried out in the ordinary classrooms of the school. These rooms are, as a rule, ill-suited for such purposes, and any encouragement or help that could be given to school boards to erect small drill halls would enable any system to be carried out with greater comfort and thoroughness. With the exception of buildings erected within recent years, few schools in the north of Scotland have any part of their buildings suitable for drill purposes, and the majority of School Boards hesitate to incur the expenditure entailed in making additions to existing buildings. (2) In 'Centre' schools, that is, schools which undertake the advanced education for wide areas, it would be desirable if junior posts in the army could be offered for competition among senior pupils. At the present time a well-educated youth, even with a strong predilection for soldiering, will hesitate before joining the ranks as a private soldier. *Remarks.*—Physical training, as a subject for continuation classes, has not been adopted in our school, as the circumstances do not seem to call for it. The number of boys who leave school in the district between the ages of fourteen and sixteen is too small to warrant any continuation classes being formed for their benefit. The volunteer movement is very popular in the town, and of the boys who remain here after leaving school, all, almost without exception, join the force. Continuation Classes.

5422. What experience have you had in physical training yourself?—I have studied the subject as taught by Colonel Cruden in the Aberdeen Physical Training College. Cruden's system.

5423. How long have you been in your present position?—Six years.

5424. When you began did you teach as much in the way of physical training as you do now?—No, we did not give it the same prominence as we do now.

5425. Have you been given a free hand in settling

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your course of physical training or has it been prescribed for you?—I have had an entirely free hand.

Inspection.

5426. Who inspects the results of this physical training, His Majesty's Inspector?—We had a special Examiner from the Department this year, Mr Johnson. He came specially from the Department, I understand, to examine this branch of school work.

5427. Do you know whether the examination was satisfactory?—Mr Johnson and Mr Robertson both expressed themselves as well satisfied.

Curriculum; time given sufficient.

5428. *By Sir Thomas Coats.*—Do you consider the one hour a week that you give to physical drill quite sufficient; would you rather take more time or not?—I would hesitate to give longer time considering the present state of the school curriculum, seeing that it is already over-crowded with subjects. The recent demands of the Department, make it almost impossible to devote more than one hour per week.

5429. But I mean, suppose you took another hour, do you think it would be to the advantage of the children, both boys and girls, say, if you could give them twenty minutes every day for five days a week?—Well, considering our case in Kingussie, where the boys are enthusiasts at their sports, I think that it would not be.

5430. It would be quite sufficient?—One hour would be quite sufficient, I think.

Physical exercise *plus* drill.

5431. I did not quite catch what you said about the physical drill of children after eleven. You said you gave them ordinary drill after eleven, but do you also give them physical drill?—It is a combination of both. In the open playground they get the ordinary military drill and also the physical developing exercises of the recruits in the army.

5432. Yes, but the girls do not march and that sort of thing?—No, the girls are taught inside by their own teachers; the boys are taught in the playground by the sergeant.

5433. And they continue to get the same physical drill that they have been getting inside?—Yes, with hoops and bar-bells.

6434. Are the different standards brought on gradually from the smallest exercises to those which are more intricate?—That is so.

5435. And in your experience have you noticed great advantage to the children from the physical drill?—Yes, certainly in smartness and in carriage.

5436. They hold themselves better?—They do.

5437. And it smartens them for their school work?—Yes, obedience is more ready and their movements throughout school are smarter.

Posts in army.

5438. *By Sir Henry Craik.*—You made a suggestion that there might be offered for competition amongst the scholars in your school certain posts in the army; do you mean those of commissioned officers?—Well, I am not thoroughly versed in matters relating to the army, but I should think that the War Office might find junior posts.

5439. But what do you mean by junior posts—subalterns?—Yes, something of that kind.

5440. That is commissioned officers; but are there many in attendance at Kingussie school who would be in a position to take commissions in the army?—A considerable number, if we regard age and mental ability as sufficient qualifications.

5441. But have the scholars attending this school means that would admit of their taking commissions in the army?—No, that is just the point, they have not.

5442. But what posts had you in your view when you suggested that?—When I made that suggestion what I had in my view was that their education might possibly entitle them to some post, even if it had to be created to suit such cases. They are the sons of poor men as a rule and are going to the University from school.

5443. What practically had you in view—what practical proposal had you in view?—I had no practical proposal beyond that the War Office might find some junior posts for them—create the post.

5444. In what sense—as non-commissioned officers or as officers?—I do not quite understand. Subaltern officers are surely the most junior posts in the army. What are the young men over eighteen doing in the school?—They are studying with the view of entering the University.

Lads o eighte upwar

5445. Do they not go before eighteen to the University?—They are peculiarly situated. They have not had good opportunities to begin with. They have possibly had to work several months during the summer season, and they lag behind. Then they get County Bursaries which enable them to come to this central school in Kingussie. There they work on until they are able to pass the entrance examination of the University.

5446. They do not go to the University till they are twenty or twenty-one?—Some of them are that age.

5447. Do you think it is an advantageous career?—I think it is better than not going at all.

5448. How many have you over eighteen in the school?—I should say about twelve.

5449. There were some commissions, as you are aware, last year offered for schools. I do not think the Department had any applications from Kingussie? No. I only heard of these cadetships in connection with another school.

5450. No, they were not cadetships, they were commissions that were offered to schools; but the Department did not have any applications from Kingussie?—There was not.

Ages o

5451. *By Mr Alston.*—You say that there are twelve young men over eighteen still in the school?—Yes.

5452. And 40 between fifteen and eighteen still in the school?—Not between fifteen and eighteen. I said between fifteen and nineteen, and there are only one or two over nineteen; the 40 cover all over fifteen.

5453. And out of a total number of how many?—About 250.

5454. Am I right in taking you up that a very small number leave school between the ages of fourteen and sixteen?—Very few boys.

5455. Then is it a peculiarity of your school that after the well-known school age of fourteen you have a number of scholars still remaining?—Yes, that is a feature of our advanced department. We have over 60 merit certificate pupils out of a total number of 250.

5456. Then I think I understood you to say that between 60 and 70 boys had drill?—Yes.

5457. As distinguished from the classes at physical exercise merely?—Of course the 60 or 70 at drill include our senior division over and above our advanced department.

5458. This total number of boys—60 or 70—had military drill—did you say it was military drill?—Yes.

Instru

5459. Under a drill sergeant?—Yes an ex-army sergeant.

5460. Assisted by?—One of the senior boys. There are at present five or six of those members of the local volunteer corps, who are practically perfect in their drill.

5461. The boys?—Yes.

5462. And are they in any position of authority over the company of 60 or 70?—Yes. We often split up the company into two, and one of the boys takes one of the companies. Of course there is a great disparity in the ages, ranging from eleven to nineteen.

5463. You find the discipline is well maintained under these circumstances?—Yes; I am always there personally to supervise.

5464. But nevertheless the military drill produces the discipline?—Yes, inside the school it has a marked effect.

5465. Then the ex-sergeant, is he an army man?—Yes.

5466. And a perfectly competent instructor?—A perfectly competent instructor.

5467. Then after eight, I think, you told us that boys and girls are drilled separately in physical exercise?—Yes.

5468. Is that because the nature of the exercise

begins to alter?—Yes, the boys are able to take exercises of greater difficulty than the girls after reaching that age.

5469. Then you do not require any expert examination from outside?—We have had none up to now.

5470. You studied under Colonel Cruden, I think?—Yes, I have studied his system.

5471. Would it be an advantage that an expert from Colonel Cruden's school or some similar school should examine you at intervals?—Well, it might perhaps help to create more enthusiasm, and assistance might be given in drawing up curricula suited to different schools.

5472. Then you have no difficulty with these older boys in getting them to attend the drill?—No.

5473. None?—They seem to be quite anxious to go to it.

5474. In the neighbourhood there is no objection to military drill?—No, except in the case of one or two smaller boys who are physically unfit.

5475. That is a different point; but is there no objection from the outside on the part of parents or residents in the uneighbourhood?—Not in the case of those who are physically fit, only in marked cases of unfitness, where there is a bodily defect.

5476. But there is no objection on the ground of drill tending to militarism?—Well, not pronounced; one hears talk sometimes, but not a direct complaint.

5477. Not worth noticing?—No.

5478. *By Professor Oyston.*—How many lads have you studying for the University?—I should say about twenty in our two senior classes.

5479. That is a very exceptional position for any school to occupy, is it not?—Yes, perhaps it is.

5480. Your school is a favourite one, then, for lads preparing?—It is what we call in Inverness-shire a centre school. There is a system of bursaries which bring boys from the outlying districts. These bursaries are not tenable except at four centre schools in Inverness-shire, of which Kingussie is one.

5481. Yes, I follow. What career do they intend to follow at the University?—They go to all the professions, but I should say, the majority of them go to the church, and the rest to teaching and medicine.

5482. Do you think these lads would be able—in addition to their studies—to take physical training?—These do get physical training.

5483. Without impairing their preparation?—The extent to which they get it at present does not in any way seem to impair their studies.

5484. You spoke of hoop exercises for girls: what are they? The hoop exercises?—You mean what form of exercise?

5485. Yes?—General bending of the body with the hoop in the hands.

5486. Where did you adopt that system from?—Colonel Cruden has been the pioneer of that all over the North.

5487. *By Mr Fergusson.*—Do I understand that these boys who stay with you to eighteen have taken bursaries and come in that way; they are not natives of your district?—A few of them.

5488. Not necessarily natives?—Not necessarily natives.

5489. They have not been with you from five years old?—By no means; they come about the age of fifteen or sixteen.

5490. Your school consists of a higher school as well as the elementary school?—Yes.

5491. In this physical training that you give you have a distinctly military idea from the beginning; you seem to train them up with the idea of their being volunteers?—Yes, it is directed towards that.

5492. And you would like further accommodation or your drill?—Yes, for the military drill especially, because in Kingussie the winter is often very severe.

5493. If you covered in a part of the ground, would that be sufficient; that would not be very expensive—if there was a part of the playground covered in, would not that be sufficient for your purpose?—In winter when there is much snow, it would require to be covered in on all sides.

5494. You said you would not like to do more than an hour a week; you are afraid that it might have a bad effect on the book work?—Yes.

5495. We were told by another witness that he gave the boys three hours a week of physical training, and the other subjects of instruction did not suffer, but rather benefited, by this extra time devoted to physical training. You do not agree with that?—It would largely depend upon the number of subjects taken up.

5496. But as the Code at present stands?—Of course there are different classes of schools. There is the literary school, the commercial school, and the technical school.

5497. I am talking of an elementary school, up to fourteen?—I would not object so much there.

5498. But you have never tried; you are afraid to try?—I have never tried giving anything like three hours weekly; but I do not say that an addition of one hour would not help.

5499. You are a great believer in physical training, are you not?—To a certain extent, in so far as it helps mental activity.

5500. When the girls are doing their physical exercises, do they have any special dress?—No. Girls: special dress.

5501. Have you ever found any necessity for such a dress?—I do not think so.

5502. *By Mr Shaw Stewart.*—You spoke of your school being one of four centre schools in Inverness-shire?—Yes, sir.

5503. What are the other three?—Fort-William, Portree, and Glen Urquhart, and one of the Inverness Burgh schools.

5504. And a certain proportion of the scholars of these centre schools take up the teaching profession afterwards?—They do.

5505. Supposing it became necessary, for being teachers to obtain a certificate of proficiency in physical training, do you see any difficulty in scholars who intend to be teachers—do you see any difficulty as to their time, supposing that facilities are given them for being thoroughly trained by experts?—If they went through training colleges afterwards, of course they would be submitted to a curriculum including a course of physical training.

5506. But I was rather trying to get at whether it would be possible for them to accomplish their physical training while they are at their centre schools, before they go to the training college?—You mean, to be thoroughly qualified to give instruction afterwards?

5507. Yes?—I am afraid it would be too much to expect that during the time they are studying for the University.

5508. They could hardly give sufficient time?—I should say not.

5509. *By the Chairman.*—These lads over a certain age, who you say come to you; there is a certain number of them who have not been educated with you from the start?—Quite a number.

5510. When they come at the age of fifteen, do they attend just the regular hours—the same hours as the ordinary elementary pupils?—Exactly the same.

5511. Just as if they were small children?—Yes, exactly the same.

5512. The same hours?—I take these classes myself, and devote the greater part of my time to these twenty or twenty-five lads.

The witness withdrew.

Mr Richard J. Wilson, examined.

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5513. *By the Chairman.*—You are the headmaster of the Kent Road Public School, Glasgow?—Yes, my lord.

5514. You have been headmaster in Dobbie's Loan Public School, Glasgow, from 1874 to 1876?—Yes.

5515. You were in Greenside Street School (850 to 900 pupils) from 1876 to 1883; you were at St George's Road School (1500 to 1600 pupils) from 1883 to 1897, and you have been at the Kent Road School since 1897, where you have from 1800 to 1900 pupils?—Yes.

5516. You were headmaster of all those schools in succession?—Yes.

5517. In the first two schools you taught physical exercise in the classrooms, that is from 1876 to 1897?—Yes; and I might say to 1897 I also taught it in the playground; preferably in the playground.

Special instructor.

5518. But since 1894 the drill in the schools has been in the hands of a specially-appointed drill instructor, who gives from twenty to thirty minutes' drill or physical exercises per week to each class, infants excepted, either in the school hall or in the open air?—Yes; that is so.

5519. And lately you have only been generally superintending?—Since the specially-appointed drill instructor.

5520. Have you your notes there; would you begin at 'Provision for Physical Exercises and Drill'?

Facilities.

Provision for Physical Exercises and Drill.—The School Board of Glasgow has taken up the subject of physical training and drill, and have not only erected halls attached to one school — which serve as a centre for three or four schools in the vicinity—but they have encouraged the teaching, by the appointment of specially-qualified drill instructors, to practically all their schools, and have also provided apparatus.

Halls.—There are three halls in connection with this school where drill can be taught, which are respectively—(a) 45 feet by 33; (b) 51 by 27; (c) 56 by 27.

Chesterton's system.

Drill as presently taught.—What is presently undertaken in Kent Road School is chiefly physical exercises and drill on the lines laid down in Chesterton's book — *Manual of Drill and Physical Exercises* — and with the exception of infant section, is undertaken by the drill instructor. Each class receives one lesson of twenty to thirty minutes' duration weekly. The scheme of work carried on in this school is mainly that suggested by the author referred to.

In order that the drill should have its proper effect in producing physical development, more time must of necessity be devoted to it. This can only be done by the sacrifice of some of the time presently given to other subjects.

Advantages.

Advantages claimed for Physical Training and Drill.—That it greatly tends to promote self-reliance, attention, obedience, alertness, civility, responsibility, habits of comradeship, manual dexterity. Teaches pupils to act in unison, and gives them a smarter bearing. They must act in conformity to a general order. They must act in uniformity with one another. In a word, should promote health and all-round development of the body.

I may add it is a most popular subject with almost all pupils.

5521. Then you go on to say the objects of physical drill you consider as those tending to general improvement; physical as well as mental?—Yes.

Uniform system desirable.

5522. And you are very much in favour of a uniform scheme?—Yes.

5523. You mean to say by that you have not a uniform scheme at present?—We may have a uniform scheme in Glasgow, but children coming from a country school, or from another district outwith Glasgow, suppose they are in the Fifth Standard, they are not able to take up the drill that the other children have already received, therefore they do not receive the same benefit; whereas, I hold if there was a uniform scheme over the country, the children would be placed at no disadvantage if their parents move from one locality to another.

Gymnas... children ... thirteen

5524. And you are also in favour of the erection of gymnasia of a small kind?—Yes.

5525. Limited to children over thirteen years of age?—Well, I speak, of course, not being a medical expert; I would leave that practically to a medical man; but I am only judging from my experience that I am afraid that children under that age might injure themselves.

5526. You rather praise military drill?—I do.

Military ... benefits.

5527. You say military drill of a simple kind is specially calculated to secure good, marked or permanent benefits?—(1) The proper development of the physical side of the child's nature. (2) The inculcation of habits of order, attention, self-reliance, precision and obedience.

5528. And you recommend that after the age of twelve the drill given to boys and girls, so far as it refers to marching, wheeling, etc., should be mainly of a military character?—I do.

5529. You say boys take naturally to military drill?—Yes.

5530. This is evidenced by the success of the Boys' Brigade; then we will go on with your suggestions?—

Suggest... cadet co...

(1) The establishment of a cadet corps, or semi-cadet corps, or something of a similar nature to Boys' Brigade in connection with every school. Such a corps to consist of boys over twelve or thirteen years of age.

Continu... schools.

(2) Military drill should form part of the curriculum of all continuation schools, and grants should be paid as for other subjects.

Cadet c... volunta...

(3) As a large number of lads leave the day school at the age of fourteen, and do not attend any continuation school, some arrangement should be made whereby they could be kept attached to the cadet corps of their school until they have reached the age of seventeen or eighteen.

(4) This continued connection with the cadet corps or semi-cadet corps of the school should be voluntary, at first at least, and every inducement compatible with effective drill should be given to secure it.

Attracti...

5531. Would you explain that a little?—I should prefer that some inducement should be given. The promoters of any scheme should take the parents into their confidence. Let them be thoroughly aware it is not to make soldiers of the boys, but to give them a smart bearing and train them in politeness. I am extremely anxious that all should be polite, and that they should not take civility to mean servility, and probably their connection with drill would secure this. If it were possible to have, say, a newsroom or a lending library, or, perhaps, some little recreation or games of various kinds, it might be an inducement for the boys to meet together to have a kind of comradeship; and I do not see any hardship in boys having one or more hours, as might be suggested, per week, during certain months of the year, at physical drill.

Notes.—One uniform scheme might be arranged to suit—(*a*) Smaller schools; (*b*) Larger schools.

Volunte...

The physical exercises and drill given to boys over fourteen years of age should, in my opinion, be on lines in conformity with, and correlated to, those given to volunteers. This would in a large measure tend to assist our citizen army, for lads would be more easily induced to join the Volunteers, seeing they would not have to undergo *all* the training of a raw recruit.

Physical exercises beneficia...

City Schools.—Having regard to the generally admitted physical improvement of girls of the upper classes through outdoor exercises and games, it must be conceded that physical exercises are beneficial. The inability to obtain fields, other than public parks, in which children of seven to fourteen could engage in games renders it almost necessary that more should be done to assist in their physical development.

Playing at ball, throwing of ball, running, jumping, hopping, skipping and other games should be encouraged in city playgrounds.

Continuation Schools.—Boys over fourteen years of age should not be struck off the roll of day drill classes till they have been transferred to evening continuation classes, and should be got, by inducement or otherwise, to attend such until they reach the age of seventeen or eighteen. There should be no break between the day and continuation classes. In the case of removing from one district to another, 'transfer notes' should be passed into the hands of attendance officers, or other agencies, so that these boys may not be lost sight of till they are placed in another school.

Classes in gymnastics should be held in connection with continuation schools and under competent instructors. Where there are day school gymnasia they should be open to continuation pupils.

Special grants should be paid for efficiency in these subjects.

Swimming.—Swimming baths are provided in various districts of the city by the Corporation of Glasgow. There are in each building separate swimming ponds for boys, girls and men. The School Board of Glasgow has arranged for a large number of pupils of the senior classes of day schools attending for instruction in swimming during the summer months.

5532. *By Mr Ferguson.*—What class of children are yours? Are they poor?—The better class; I may say they are the class of children of artisans, shopkeepers, marine engineers, and a better class still.

5533. Perhaps you do not come much into contact with underfed children?—I may say, sir, that in my earlier career, in my first two schools, especially the first one, I had a very poor class of children; at Dobbie's Loan, which was the first school that the School Board of Glasgow opened, they were underfed.

5534. You had a lot of underfed children there?—Yes.

5535. How did you deal with that?—Well, the agencies then were not so extensive as now; I used to send to some of the parents and instruct them, especially in Glasgow, to see whether they could not get a little lime water for their children, and then to ask them to give them food that I thought would assist in bone production.

5536. If you found a child coming manifestly underfed, were any steps taken to see why it was not properly fed; to look up the parents and try to put things right?—I have looked up the parents and tried to put them under Church agencies.

5537. The School Board did not do that?—Not at that time.

5538. Do they now?—Well, I think they are in touch with all agencies of that kind.

5539. Do you approve of that?—Oh, yes.

5540. You think that it should be part of the School Board's duty to take whatever steps they can to see after the feeding of the children—I do not mean to feed them, but to see why the children are not properly fed and to do what it can?—I would approve of the School Board co-operating with the existing agencies, because we have in Glasgow a large number of ladies who are only too glad, in many cases, to be philanthropic.

5541. All your physical instruction, you say, is given by a special instructor; you yourself have nothing to do with it?—Not since a specially qualified instructor was appointed.

5542. Do you approve of that, in physical instruction, that you—the headmaster—should be entirely outside physical training?—I am not exactly outside of it, because I go along with the drill instructor to certain classes, certain weeks.

5543. You are always there when your classes are being taken?—I do not take each class each week—it would mean probably a whole day or more of my time, and then I am liable to interruptions from callers, but I contrive in the course of a fortnight or so to see all the classes at drill under the instructor.

5544. Would you prefer to give the physical instruction yourself?—I am afraid, now, that I would not care to undertake that—the whole drill of 1900 children. *Mr R. J. Wilson.* 28 May '02.

5545. Oh, no; but of course you have got assistants?—Perhaps I did not understand your question.

5546. I do not mean that you should instruct the whole 1900 children, but your own particular class, and the other teachers should instruct their classes?—I think perhaps, if it were possible where the physical condition of the teacher is such that he is able to give physical drill, that the teacher should do it under the superintendence of an expert instructor. Teachers: ordinary staff supervised by expert.

5547. Do you find that the experts can keep as good order as the teachers can?—There the influence in one way perhaps may not be so beneficial. I would prefer that the class teacher should be alongside of the expert instructor when he is giving the drill, and then should practise the drill at other times when the expert is not present.

5548. You say the drill should be mainly of a military character, but from an observation you made you seem to have some fear that parents might think that you were trying to make soldiers of the boys?—Well, I think it might be well to let the parents know what we were after—take them into our confidence.

5549. Would not one of the best ways to do that be to avoid calling it 'military drill,' and call it 'school drill'?—I think so; I think if you keep away that term military; some people read into it more than may be actually meant.

5550. And the practical result would be the same so far as the drill is concerned?—Exactly so.

5551. With regard to your continuation classes after fourteen, what is your idea about continuation classes; should they be made compulsory?—Well, personally I have no objections to them being made, so far, compulsory. We find, just now, that the better class of boys readily go to physical drill, physical exercise and join the Volunteers, but there is a class of boy, perhaps, who is the very one you want to get at, to set him up, who does not go. Continuation classes: voluntary attendance preferred.

5552. Quite so; but is it not the case that in Glasgow an enormous number of boys whenever they leave the elementary schools—that is to say, after the age of fourteen—go to work?—That is so.

5553. There is plenty of work always for them to do?—There is a great demand for boys over fourteen.

5554. While these boys are at work have they got time to attend the continuation classes?—Of course I cannot speak for all the works; but I should imagine that the majority of these boys are free at six o'clock in the evening.

5555. But then they have had a very hard day's work?—That may be, of course, but I am only judging from observation, and seeing them in certain districts loitering about at street corners.

5556. You would be prepared to compel a certain number of attendances at continuation classes at which physical training would be one of the subjects?—I think if there could be some inducement made whereby they could be encouraged to come, if at all possible, voluntarily.

5557. You think that making it compulsory would be unpopular?—I am not prepared to say. In speaking to certain people, they say that there would be no hardship. If I might just say, in speaking to men of various political opinions—I should not introduce politics—but we find that they are nearly all agreed that something should be done.

5558. *By Mr Shaw Stewart.*—You believe in the Chesterton system?—I do.

5559. Chesterton himself would say that half an hour a week devoted to physical exercise under his system would be an extremely inadequate amount of time; you agree with him there?—I quite agree with him there. Time.

5560. Can you give us an idea as to the amount of time that could be devoted to physical training in schools without interfering too much with the other subjects; would you say that it would be possible for the lower classes to have twenty minutes a day,

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and so on, up to forty minutes a day in the higher?—I am afraid that that could not be without taking it off some other subject.

5561. Granted that you would have to take it off some other subject, would that interefere injuriously with the mental work of the school?—I think physical drill is calculated to assist the mental. I say I taught it from 1870, when it was not compulsory; but I neglected to mention here that it was taught by one of my masters—even up to single-stick drill—when it was not even mentioned in the Code, and I simply began physical exercise, because I found that the children wrought better afterwards mentally.

5562. *By the Chairman.*—Was that after school hours?—No, in the middle of school hours; they were stopped in the middle of a subject and took a little exercise, and then resumed the subject again.

Curriculum: more time impracticable.

5563. *By Mr Shaw Stewart.*—Now, taking the present Code, would it be possible to get the results required under the present Code by devoting half an hour a day to physical training; would it be possible to get the desirable results on the whole?—I do not think it would be so bad in the very lower classes; but in such a school as I have just now, they aim at getting the Merit Certificate as soon as possible, so that children can get into the higher grade department; and if we are to take the Leaving Certificates in the higher grade department, our time would be curtailed there. I quite admit that if all schools that were going in for the leaving certificate had the same time for drill they would stand equal at the examination.

5564. Then do you think the Code should be modified?—Well, I am not prepared to say.

5565. Well, you are an educational expert, and I should like your opinion?—We have got so much relaxation lately, and I have found the inspectors ever ready to assist in any matters when asked them; but I would prefer, seeing they have a wider grasp, to leave suggestions of change to them, as I have only the experience of my own school.

Manual dexterity.

5566. You speak of manual dexterity being one of the many advantages which can be derived from physical training, and I have no doubt you are perfectly right. Well, now, if that were made clear as being one of the objects which this Commission was appointed to obtain, would that remove, to a considerable extent, any opposition on the part of the general public to the extension of physical training?—I think it would, sir.

5567. Manual dexterity, of course, would be of great advantage to boys and girls who were afterwards to engage in handicrafts?—Yes.

5568. Quite apart from anything military?—Exactly so.

5569. And, therefore, if that were thoroughly understood by the general public, much of their objection would be removed?—I am sorry to say that unless boys have had a course of manual instruction, or some such thing, they are very bad in using their hands, and particularly in using the left hand.

5570. Naturally, like everything else, it requires training?—Quite so.

Swimming.

5571. One question as regards swimming; you say that instruction in swimming is given in summer, but in cities such as Glasgow would it not be possible to give instruction in the winter in the swimming in heated baths?—In heated baths it would,; but children leaving school, and going to the baths, and coming back to school again—the drying of the hair is a difficulty just now. Of course at present, I understand, the Glasgow School Board cannot get their baths after 4.30. If the baths were obtainable after 4.30, it would allow the children to get their hair dried and prevent any cold accruing.

5572. That would be a more suitable time?—Yes.

5573. *By Sir Thomas Coats.*—You said, I think, that in the Kent Road School, where you are at present, the children were of a better class than the average of the Board School children in Glasgow?—Yes, I would say so, taking them upon the whole.

5574. They are the sons of marine engineers?—Yes, and shopkeepers and others.

5575. And other mechanics?—Yes; some of the parents are the foremen of some of the engineering works, and sea captains and so on; that is the class from which the children come.

5576. Will a large proportion of these boys after leaving your school become apprentices in the engineering shops?—A great many of them do, sir.

5577. Do not the employers make it compulsory that these apprentices attend the technical classes, or continuation classes, at night?—I am not certain that they do. In some instances I know they do, and many of the boys, looking to their future, attend classes. I mean to say, as a school, Kent Road is very well attended in the evenings, but I cannot say that employers make it a condition.

5578. I would ask you, in connection with these technical classes in the evening, do you think it would be possible to have physical training as a part of the course they were taking, making it obligatory on them to take up physical training as well as mechanical drawing and things of that sort, or what they take in the evening classes?—Well, I think it could, and if, as you already suggested, the employers were to make it a condition of apprenticeship, that would get over a great part of the difficulty.

5579. That would be in your school particularly?—I think even generally, where apprentices were.

5580. But the sons of shopkeepers who are not going to follow out mechanical life there would not be the same interest for their taking technical education there would be a good number. If you took for granted that they were going to become mechanics afterwards, that they would go to the evening classes, there would still be a large proportion of boys who, unless they were obliged to go, would not go?—Quite true.

5581. Very possibly their parents would not oblige them to go?—Yes.

5582. Well, you would require to deal with them?—Well, that is just the point that I find in conversation that most people say something must be done. There are certain boys who will attend of their own free will; there are others who will not attend; the very boys who you would desire should attend do not attend.

5583. Then do you think the parents would object to these boys being obliged to attend evening classes after they had passed out of board schools, say at fourteen. Do you think there would be a strong objection on the part of parents to make training in the evening schools compulsory, say up to seventeen?—It would depend probably on the hour or number of hours per week, or the number of hours throughout the year. I do not say that there would be any hardship in any way if there were to be a certain number of hours per annum.

5584. There is just one other question I would like to ask you. In reply to Mr Shaw Stewart, who asked you about manual dexterity, and that being improved by physical drill; in what way would you obtain manual dexterity; I could not quite follow you in regard to that?—With the handling, perhaps, it may be of a rod, or, if you like, miniature gun, but a rod will do, and moving from hand to hand and training the left hand—putting it into certain positions.

5585. But would not sloyd work do more in that direction than in physical drill?—Sloyd does; but sloyd does not, in my opinion, train the left hand. The left side is left weak. I have observed it with a boy who even has been taught with sloyd, if you put a hammer into his left hand he seems not to be able to use it.

5586. *By Sir Henry Craik.*—Your duties in a large school like yours are those of superintendence?—Generally, and somewhat of examination.

5587. You do very little in the way of teaching yourself?—I do teach, for the purpose of showing my pupil teachers how to teach, or any teacher who may be weak or inexperienced.

5588. But, of course, your time is fully taken up with the duty of the general superintendence of the school?—It is.

5589. And you find that you trust the different sort of teaching to your different subordinates?—We have to do that; more markedly in the higher grade department.

5590. And you find that amongst your subordinates those experts in physical training do their work generally as well as ordinary teachers, so far as discipline is concerned?—Since our drill-instructor was specially appointed, I have not put it specially to any of them.

5591. You have not entrusted any of the general teachers with this physical work?—Except the infant teachers, since a special expert instructor was employed by the Board.

5592. You draw a certain distinction, do you not, between physical exercise and drill, whether we call it military drill or not?—I have not hitherto.

5593. But the manuals that are drawn up generally do make such a distinction?—Yes.

5594. Is there more obedience to order and the discipline inculcated by the drill than by the exercises?—I think there is.

5595. And the drill would more naturally lead a boy on to more responsible service, in the way of joining a Volunteer company?—I think it would; that would be my object, to assist Volunteers.

5596. Certainly; then that being our object, you speak of your desire to take the parents into your confidence; I think you used these words?—Yes?

5597. Is not the best way of taking the parents into your confidence to tell them distinctly what you mean?—Certainly.

5598. Not simply to cover it by physical exercises, if you really mean something else—something which is to show a moral effect as well as physical?—Yes.

5599. About the Code; you were asked whether you would suggest any changes in regard to the curriculum. Now I do not want to ask you what changes you would make, but would you suggest any change in regard to the curriculum of the Code; it prescribes no curriculum, I think?—That is why I said it was only——

5600. So it is only a question of your not agreeing with what the Code enforces; but the Code enforces nothing except what you choose to take up, except the most elementary subjects?—Quite true. That is why I suggested that it should only be in consultation with the inspectors.

5601. But you have it in your power to shape your curriculum at present?—Yes.

5602. You told us that you had charge of Dobbie's Loan School earlier in your career; a very poor school?—Yes, it was.

5603. Was there any practice of taking the children into the country in their holiday time?—No, so far, except in connection with Sunday schools for a day now and again.

5604. That, of course, has no effect upon them physically at all—the single day's excursion?—No.

5605. Harmful, I should think, perhaps, rather than the reverse?—Yes.

5606. But there was never any attempt to camp out these poor children in country places?—Not until a later period, when there was a fresh-air fortnight.

5607. And that is now done?—That is now done; there is a fresh-air fortnight.

5608. Have you ever heard of any attempt to take the children of a town school to camp them in country schools during the holidays, somewhere near the sea?—No, not except in connection, as I have said, with the fresh-air fortnight, and there may have been—I am not prepared to say—in connection with the Boys' Brigade.

5609. But you think that would be a very good way indeed of giving them some physical exercise as well as fresh air?—Perhaps in the very poorest, but I might say, even with Dobbie's Loan, it was not for the want of money in many of the cases; it was simply the misuse of money by the parents.

5610. Yes; but just as you would take a cadet corps out to camp for a week or ten days, would it not be a very excellent thing to take some of these children from the poorer districts of Glasgow to do the same thing?—I think it would.

5611. Recognising it, I mean, as part of the school curriculum, and paying for it as such?—I think it would be very beneficial.

5612. But you are not aware of it being done as a part of the school work in any school in Glasgow?—Not that I am aware of.

Physical exercises encouraged by School Board.

5613. *By Mr Alston.*—You have told us that the School Board of Glasgow encourages the teaching of physical exercise?—Yes.

5614. How do they manifest that encouragement?—By supplying drill instructors and by giving us various kinds of apparatus, and providing gymnasia in certain schools.

5615. How many instructors are there?—I could not say, but I think instructors visited all schools with the exception of two.

5616. But all these schools have not suitable drill halls?—No.

5617. How many drill halls have you in Glasgow?—Well, I cannot say.

5618. There is one in St George's Road School?—There is.

5619. Is that considered the model?—I do not know that it is; that was erected after I left; I do not know that it is the model.

5620. Which is the most recent hall?—I am not certain, unless there is one at Provanside, but I cannot say.

5621. That is the method which the School Board is using to encourage physical exercise; giving the apparatus and giving the halls and providing instructors?—Yes, I think they promoted drill halls since the erection of the schools, in many cases; the schools were erected first and then the drill halls have been afterwards erected.

5622. The drill hall is generally in a central area in the building in many cases?—In many cases, yes.

Teachers, under expert instructor.

5623. Then I think you told us that the teachers in the schools do not instruct in physical drill?—I am speaking of my own school only—for Kent Road School.

5624. Then do you approve of that?—No.

5625. Would you like all these teachers to be capable of imparting physical instruction?—Yes, and I think they would be when they were put, so to speak, under an expert instructor. Many of them have a diffidence; they are afraid they are not able in many cases.

5626. But they could go to the proper centre, for instance, and come back with certificates that they were competent?—Many of mine are certificated.

5627. In physical training?—Yes.

5628. Then of course they are competent to instruct?—They are competent.

5629. But would you like supervision by an expert, say the Department sending an expert to supervise the instruction given?—I would not. I would prefer the School Board, as they are doing now, sending what I call a drill instructor—an expert.

5630. You call the drill inspector an expert?—I do.

5631. And have you noticed the work of the drill instructor?—I have.

5632. And is it perfectly satisfactory?—Well, the present one has only been with me for a short time, but I have had several of them, one of them notably particularly good.

5633. What is his name?—Mr Macdonald; he went into business some two years ago.

5634. And are they all satisfied with Mr Macdonald?—They were all satisfied; the children were thoroughly earnest with their work; he was a splendid musician as well as a drill master, and they had music.

Music.

5635. I was going to ask you that question. Does Sergeant Macdonald always instruct with musical accompaniment?—He has only been little more than a month with me; to certain exercises he takes music.

5636. Have they expressed any opinion as to the necessity for teachers using musical accompaniment?—

Mr R. J. Wilson. 28 May '02.

Some of them said to me that sometimes in taking music, unless you watched particularly, the children perhaps were not so expert.

5637. But they had nothing to say as to the movements having been thoroughly practised before music was used as an accompaniment?—No.

5638. We have had evidence before us which seems to point to the fact that you must thoroughly train in these movements by physical drill without music, because there is a danger that in using music always the movements become slovenly; you have noticed that?—Yes; but the movements were taken without music first until they knew them thoroughly, and then in rehearsal, or in practising them regularly, they were taken with music.

5639. Then, while the School Board encourages, and takes means to encourage, the teaching of physical exercises in their schools, they draw a line, as we have seen from these papers, at military drill?—Yes.

Military drill.

5640. You have a great belief in military drill?—I have; but then, on the other hand, the School Board themselves—I am not saying one word derogatory of the School Board, I want to be loyal to them—they have formed a cadet corps in the High School which has turned out extremely well; and if it is good for boys of the better class, surely it is still more necessary for boys of the poorer classes.

Cadet corps: expense of uniform.

5641. How would they meet the expense of the cadet corps in a general school?—Well, I cannot say as to School Boards doing that, but I think if there was a semi-cadet corps attached to our schools, so that perhaps the expense was not too great; I think if some small uniform were given, such, perhaps, as a coat, that would cost only about a few shillings, and so on, I think it would have the effect of assisting the boys to have a little *esprit de corps*.

5642. Would you get the boys with such a small amount of uniform?—Well, I think if they had a jacket of some kind, something like a Norfolk coat—with, perhaps, facings on it—a cap and belt, and so on; I think if they were to be told that it would become their own property, perhaps at the expiry of two or three years, and they paid perhaps one-third to one-half the sum of it.

5643. That might perhaps do in schools such as yours, where the parents are really well-to-do; but generally, over the city, could you conceive a cadet corps being added to each school, and the parents consenting to pay for anything like a uniform which costs about £3?—But I mean instead of that, if it were possible, when a uniform of any kind, a jacket, that would not, perhaps, cost the parents more than about 2s. per annum; supposing the boy were three years in the school, and the uniform would not cost more than about 2s. per annum, and become the property of the boys at the end, the other agency providing the other half—the whole costing 10s. 6d. or 12s. or so.

5644. You think it would be such an advantage to the school discipline and general work of the school that it would be worth trying the experiment?—I think in the general appearance that it would put upon children a very smart bearing; that it would have an effect upon boys; I said for boys just now.

5645. Then as to continuation classes; upon the whole you do not think they should be compulsory?—Practically, or semi-compulsory.

5646. If not compulsory, you would require to attract the boys to attend after the age of fourteen?—Yes.

5647. What attractions would you propose; would you advocate the introduction of fencing?—I would.

5648. Single-stick?—I would.

5649. Perhaps sword exercise?—Yes.

5650. Bayonet exercise?—Yes.

5651. And applied gymnastics?—Yes; and, if it were possible, perhaps have a reading-room or library in connection with the school. I can fancy that in country schools many country lads are simply at a difficulty what to do with their time.

5652. But we are talking of a city like Glasgow, where we know the lie of the land so well?—Yes.

5653. Now many of these boys are in occupations which make them very tired at the end of the day?—But I think if they were once or twice a week for a very short time just as an experiment, as could be best arranged.

5654. And you think that it would be a very great advantage in continuation schools to have military drill introduced as one of the subjects?—I think military drill and physical exercise to assist in the general development and building up of the body, and setting up, so to speak, physically.

5655. Then, as we know from the report of the last meeting of the School Board, even in continuation classes they disapprove of military drill under that name?—Yes.

5656. We have got these facts publicly now?—Yes; I have seen the newspapers.

5657. Then to go back to another point, uniformity. You think that would be a good thing in the instruction; you said the want of uniformity would be a disadvantage to children coming from other places. The disadvantage would be in coming from other schools having another system; if they entered Kent Road they would not be on a level with your children there?—Unless there was a uniform system throughout Scotland.

5658. Would their not being on a level with your children arise from want of uniformity, or inferior quality of instruction elsewhere?—My object was to equalise, so that the same system of drill was taught throughout Scotland, however simple.

5659. You would advocate that?—I would advocate, however simple it should be taught.

5660. Have you formed any idea which is the best system of the many which are used?—I have not; but I have formed the idea that I think some simple exercises should be introduced of some kind; perhaps got up by experts in physical training. After the expert had got these up he might produce them practically before some special anatomist or medical man, who would then say whether the children were overtaxed in certain muscles, or undertaxed in other muscles, so that each muscle and each side of the body should have its due proportion of exercise.

5661. You think such a uniform system could be constructed under expert opinion?—I think so, put simply, but so that it could be varied.

The witness withdrew.

Miss C. Cowan.

Miss Christina Cowan, examined.

5662. *By the Chairman.*—You are headmistress of Possil Park Public School, Maryhill, Glasgow?—Yes, my lord.

5663. And how long have you been so?—For about fourteen years.

5664. You say it is practically a typical town school?—Yes, my lord.

5665. Except for its being on the outskirts of the city; its pupils have more advantage in the matter of fresh air and unoccupied ground to play upon. There are 1200 places in the whole school, and the infant department 350 places, boys and girls?—That is so.

5666. And there are four large classrooms on the sunny side of the school, with half of the floor space galleried and desked, and half of the floor space left free?—Yes.

5667. Then you say, as regards the physical training, that you do not claim that it is based on hard and fast scientific principles, but simply that it has come about as the result of experience and study of child

nature. Do I understand from that, that the physical training is more or less arranged by yourself, not on anybody's system?—Not on anyone's system; no.

5669. And not from a printed book?—Not from any book.

5670. Nor manual?—Not as to the vocal part of the training. When we come to the apparatus drill it is practically the same as given in any ordinary drill book. I mention that later on; I begin with singing.

5671. You begin with singing?—Whenever I get them in I begin right off with songs, and combining songs with actions; I make them turn roundabout, and even dance. By turning to the right or left instead of always facing the front the children are enabled to give their arms free play in a great variety of actions.

5672. You say that you would like to state briefly from your experience what you have been led to consider adequate means of securing that children of say from five to seven years would not only not suffer physically from enforced attendance at school but derive positive benefit from such attendance, and you say that this is apt to be overlooked; that all the good results from regular physical exercise may be wholly—and perhaps more than—counterbalanced by want of care at other times; for example, their being compelled to assume certain positions for writing, arithmetic, or other occupations, or carelessness in ventilation of the room?—Yes, a cramped position.

5673. So that you look upon physical exercise as very instrumental to the general health of children?—In every way.

5674. You divide your physical training into two parts, I see?—Yes.

5675. You say in this connection that you wish to insist that the physical training of the children should receive careful attention throughout the whole length of the school day?—Yes.

5676. And not only during short fixed periods, and, therefore, you ask to be allowed to make at times what may seem a digression; do you mean in your notes?—In the notes, just in describing it.

5677. Then you proceed to give a day's programme; you say on the paper the children in the lower and upper infants?—Whenever we get the little children into the school we have two rooms set apart—the two lowest infant rooms, and while sitting or standing in their desks, they go through any amount of hand-drill and knee-drill and breathing—inhaling and exhaling, they do not require to be brought out of their desks at this stage. They go through it regularly every day; for about twenty minutes every forenoon they are drilled, play and drill being combined.

5678. Now would you mind reading from your notes?—I would now ask to be allowed to make some observations with regard to the part of the reference, 'and to suggest means by which such training may 'be made to conduce to the welfare of the pupils.' It seems to me that the requisites for securing the best possible results are mainly three:—1. Suitable accommodation and apparatus. Room cheerful, well-lit, well-ventilated. Important though the matter of accommodation undoubtedly is, yet too much may be made of it. In my experience excellent results have been attained in temporary premises, which many might have considered altogether unsuitable. These results were testified to by two Inspectors—the late Dr Ogilvie and Mr Munro Fraser. ('Physical exer-'cises are of superior merit.'—Dr. Ogilvie.) It was a temporary building that was condemned by Government. 2. Good teachers.—Without these nothing else is of any importance. Any success which has attended my efforts must be attributed to the zeal and hearty co-operation of my staff. For the teaching of infants special qualifications are necessary, and no one who has them not should be employed in the work. Scholarship of high degree is not essential, neither, perhaps, is a deep knowledge of scientific theory. But what is essential is, that the teacher have sympathy with children, a love of her work among them, and be bright, pleasing and attractive in manner. Young children are most impressionable, and anything like harshness or coldness makes them withdraw within themselves, so that although exercises may be gone through with mechanical accuracy, they are robbed of much of their value. The training which many of the younger generation of teachers have received as pupils and as pupil teachers should result in good in the future; but the essential thing is not a knowledge of theories, but active sympathy. Therefore, no one should be engaged among young children if she feels the work a burden—no matter what her scholarship or degrees may be. In the conduct, too, of a large infant department, it is desirable that there should be if possible a proportion of younger teachers—pupil teachers and others, who being, in a sense, still children, link the budding intelligence to the mature mind. Young teachers, too, have less dignity to maintain, and, moreover, for physical reasons can put into their work that 'abandon' which is characteristic of children and which they so love. In many schools there are many old teachers. In the infant room, if there are four or five mistresses, they are nearly all pretty old. Instead of that, in our school we move them on. Whenever a mistress has been two or three years in the infant room we move her on to a standard, and a young fresh teacher comes in. 3. Musical accompaniment.—Wherever possible good music should be provided—it gives interest and stimulus which nothing else can. Under its influence the dullest and most lethargic child is roused to activity. Besides, experience proves that exercises can be continued for a much longer time without fatigue if music is employed. Any kind of music can be employed; I have heard of a concertina being used. In short, harmonious motion and harmonious sound are complementary, and a harmonious whole is the aim and object of all training.

Music.

5679. *By Mr Fergusson.*—I see you make the boys whistle an accompaniment for the girls, and the girls sing for the boys?—Yes.

5680. Is that an invention of your own?—Oh, well, that is a common thing.

5681. Is it?—It is when there is no piano in the playground. We often give them their drill in the playground, and they enjoy it very much.

5682. *By Mr Shaw Stewart.*—You say that you have attained very successful results in temporary premises, so I suppose that would point to this, that if a teacher is really enthusiastic about the physical training, much can be done?—In any circumstances.

5683. In any circumstances?—I think in almost any school at all a great deal can be done.

Inspectors.

5684. But I suppose one of the things that would conduce to make teachers enthusiastic about physical training would be that the Inspector should be very particular about that branch of his inspection?—Well, it was a remark of the late Dr Ogilvie that led me first to make a sort of specialty of the singing and drill combined. He said it made the children so bright, intelligent, lively, alert, and all the other inspectors have noticed the same.

5685. Therefore we may take it from you that if Inspectors paid particular attention to physical training, that would react very markedly on the teachers?—It would. It has done so on me. But I think they do it; I have found that they have all done it.

5686. But many witnesses come and tell us that there should be more physical training, therefore it would point to this, that Inspectors should pay even more attention than they do now to that branch of work?—Well, I spoke just for what I have found, that they have paid particular attention, every one of them that I have had.

5687. Perhaps you have been specially fortunate in that particular?—Yes.

Inspection.

5688. *By the Chairman.*—How often, as a rule, are your classes examined in physical training?—By the Inspector, just twice a year.

5689. But are they examined by yourself?—Every day; every child in the infant department is put through a certain amount of drill.

Miss C. Cowan.
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5690. Do you teach yourself, or do you examine?—I just superintend.

5691. You do not examine them?—Well, I am always there when they are doing it; I am just really examining them to see that it is gone through properly. The teachers are very enthusiastic as a rule when it is thrown on their own shoulders to do.

5692. Your department, as you have already stated, I think, is 350?—Yes.

5693. What sort of average attendance?—That is the average attendance; it is really about that; we are overcrowded. The attendance is sometimes greater than the accommodation.

5694. Do you ever see any of the School Board?—Oh, yes, occasionally.

5695. Do they often come round?—Not very often.

5696. And when they come do they ever go in for any examination of the physical training?—Never.

5697. Simply just walk round and examine the premises?—Usually on examination day, as a rule. They do not visit the school much at all.

Accommodation.

5698. *By Sir Henry Craik.*—You spoke of your accommodation being rather overcrowded?—Yes.

5699. What do you think of the rate that is required per head by the Department; is it sufficient, do you think?—Oh, it is quite sufficient.

5700. That is only eight square feet for infants?—Whatever it is it is sufficient, because I could easily put more into a room than the Government allows me to put in.

5701. Would the air be good enough to keep the children in good health?—We are not built round about in the infant department. We are free, and it is very bright. The rooms are very bright. It is a modern school, and I think what Government allows is quite sufficient.

5702. Insists upon, rather?—What they insist upon; yes. While, for example, I had 370 present on Monday, and the accommodation is 350, I could easily have put other 20 in, and it would have been quite fresh and nice; so that the accommodation is, I would say, ample. What they insist upon is ample.

5703. How long do the children stay in your infant department?—On an average, two years.

5704. And when do they leave; at what age do they leave?—Seven is the average age for leaving.

The witness withdrew.

Mr J. Cantlie, M.B., F.R.C.S.

Mr J. Cantlie, M.B., F.R.C.S., examined.

5705. *By Professor Ogston.*—Lord Mansfield has asked me to put to you the questions that the Commission desires to hear answered. To begin with, you are an M.A., I think?—Yes, of Aberdeen.

5706. And you have also special medical degrees; they are M.B. and C.M. of Aberdeen, F.R.C.S.Eng., and the Diploma of Public Health, London?—Yes.

5707. And you are a surgeon and lecturer in anatomy to Charing Cross Hospital?—Yes, and surgeon to the Seamen's Hospital.

5708. You have had experience of general practice for a number of years?—In the East I had a general practice, at home here I have had, before I went to China and since my return, a purely surgical practice.

5709. A purely surgical practice in this country, and considerable experience in China?—Yes.

5710. Before you give your evidence in detail, if you have the notes of your intended evidence with you, would you mind reading over the headings under which you have placed it, so that we may have a general idea of the direction of your evidence, and then we can go over the individual points?—

Suggestions.

1. Country children in various parts of the Kingdom are deteriorating. Urban children in the larger towns of the poorer classes are deteriorating.

2. Country children require no systematic exercise, except military drill, provided they are not confined after school hours at indoor work.

3. Urban children require artificial forms of exercise.

4. Games are necessary for both country and urban children. The discipline many games engender are useful in teaching principles of truth and honour.

5. The principles of exercise for children should be:—

(*a*) Every exercise or game which calls into play the lower extremities of children under fourteen should be encouraged, if the child's physical strength is not overtaxed.

(*b*) Every exercise or game which calls into play the upper extremities of children under fourteen is to be viewed with suspicion, and when the upper extremities are developed whilst the development of the lower extremities is neglected, that game in exercise is to be condemned.

6. Boys until the age of sixteen or seventeen should not be allowed to indulge in exercises with heavy dumbbells or severe gymnastics.

7. Girls should never be allowed to employ their upper extremities in exercises requiring anything but the slightest physical strength.

8. Gymnastics, trapeze, cross-bar, etc., are not to be recommended to any boy under sixteen or seventeen, and to girls never.

9. Swimming should not be permitted to boys or girls under sixteen, except under strict supervision.

10. Cycling should not be allowed for boys or girls under sixteen unless some person in authority is with them to restrain them from over-exertion.

11. Football, hockey, etc., should only be allowed for young persons under sixteen when those who take part in the game are of the same age, or not more than of two years' difference. This is not so much on account of the danger of being hurt as on account of the danger of over-exertion.

12. Military drill for boys and girls should be daily, and not last longer than twenty minutes.

13. Children should never be condemned to go 'walks,' except for a distinct purpose. They should be allowed to go-as-they-please, and not to walk in step or keep line.

14. Constant medical supervision is necessary at schools and universities. Young men at universities, and indeed everywhere, should when 'training' be compelled to produce a 'weekly' certificate that they are physically fit to proceed with the training.

5711. You have thought a good deal upon such subjects as those?—Yes.

5712. And you have written upon kindred subjects?—Yes, I have written a good deal upon this very subject, exercise in health, in a book called 'The Book of Health,' and also recently an article called 'The Health of the People,' in *The Practitioner* for March, which has been copied into several of the daily papers.

5713. And you have also directed attention to many new points. I believe you were the originator of the statement that no Londoner survives beyond the third generation?—Yes, I published that statement some time ago in a lecture given at the Parker Museum of Hygiene, under the title 'Degeneration amongst Londoners.'

5714. That your experience has led you to?—Yes, my experience has led me to believe the same statement still.

5715. Then, turning to your notes of intended evidence, that the country children are deteriorating, have you any data that you would like to bring before us in regard to that?—The observations in regard to that were chiefly made in Essex and Hertfordshire, and part of Buckinghamshire, which represented, as far as I could understand, a very average condition of the state of the rural population; and for some years past I have made careful enquiries of the doctors in the various places in

connection with different parts of England, especially Hertfordshire, in regard to the children, and remarking upon the children that they looked rather miserable. 'Oh, yes, of course, they are miserable, they are suffering in most of these villages from rickets.' 'What is that from?' 'From want of proper food; that the wages are so low and the families are so large that rickets is one of the commonest ailments we have to treat in some of the country villages of Hertfordshire,' and that having been brought to my notice I extended my inquiries in different places—Surrey and part of Kent, and again in the neighbourhood of Manchester—and I find that rickets is not at all an uncommon disease in the country, amongst country children, say within an area of forty miles from London, and unless it is attributable to want of food, or insufficient food, or wrong food, I do not know what else it can arise from, and in that sense the children, there is not the least doubt, are deteriorating in that particular way.

5716. On what period of years would your observations bear?—Only during the last five, since I came back from China.

5717. And the deterioration is both mental and physical?—I cannot speak positively about the mental qualities.

5718. Second, that country children require no additional exercise, except military drill, provided they are not confined after school hours at indoor work: have you any detailed observations to make regarding that, or is it sufficient as it stands?—I think that is sufficient, sir, as it stands.

5719. Well, the antithesis to it that urban children require artificial forms of exercise is also sufficient as it stands?—I think so.

5720. Then the fourth heading, games: you approve very much of games?—I do, as a form of exercise for children.

5721. And for the reason also given here that they engender principles of truth and honour?—Yes, and fairplay, and regard and respect for each other's word. I think games are the chief means of teaching them discipline amongst each other.

5722. Do you advocate the organisation of games under the teachers or a spontaneous employment of them by the children?—I think it should be spontaneously by the children. I do not think it is a good thing for the schoolmaster or the schoolmistress to interfere much with the children's games. The games become, then, a duty. It is not what you call a spontaneous game then, and I think, if the schoolmaster is there regulating the code of honour, it does not have the same effect on the children. The principle of honour is almost instinct in children if they are allowed to have their own way. There may be one or two bad ones amongst them, but I think the general instinct of the children will be towards fairplay and uprightness in games. If children are left to themselves, I think, it is much better than for the schoolmaster or anybody over them to control them, except it may be senior children or senior boys or girls; but I think the schoolmaster should have nothing to do with the children's games.

5723. Have you any views that you would wish to express regarding playgrounds or play-halls or covered sheds?—Recently, last March, in the article that I referred to in *The Practitioner* in connection with the health of the people, I advocated there that in large towns covered playgrounds should be instituted so that no covered playgrounds should be further away from any individual house than say half a mile, so that children need not have a further walk than say ten minutes to get to any covered playground in any part of the city—that would be one covered playground in an area of a mile in circumference. These covered grounds should be made to pay by charging a fee from children of parents who are well off; they are in just as bad a condition living in the centre of a big town as the poor children are. There might be one or two or three different classes in these covered gardens or covered playgrounds the same as we find in our public swimming baths. I firmly believe if they were conducted in that very way, but that the covered playgrounds should be at the disposal of all children, they would prove successful. In winter time the parks in our large towns are perfectly useless for about seven months in the year as recreation grounds for the people. For adults it may not matter so much, but for children it is a very serious thing that they are shut up for five, six, or seven months in the year with no place to go to play, and unless we have some covered playgrounds of the kind, our parks do not, except for five months in the year, exercise that useful object, and there is only one way out of the difficulty, namely, to get some covered playgrounds for them. If necessary, as in bad weather, they might be used in the summer time as well, although I think there are enough parks in the various towns and cities in Great Britain now to allow children to play in during the summer time.

5724. Do you consider that suggestion capable of being applied to all the wilder districts of Scotland?—You mean the covered playgrounds?

5725. Yes?—I think they are only necessary in large towns.

Games: lower extremities of children under fourteen must be exercised.

5726. Referring next to the fifth paragraph, and to the first clause of it (*a*), would you mind telling us why you think that games which call into play the lower extremities of children under fourteen are the only ones that should be encouraged?—Well, I think that as the primary use of the lower limbs is to walk with, the lower extremities ought to be exercised most. Artificial exercise of the upper extremities, or any extraordinary development of the upper extremities, I think is artificial, and I think is not consistent with physical strength. We see at the present moment, almost in all our towns, that men are developing their upper extremities, and leaving the lower extremities to take care of themselves; the same thing has happened in rowing, not so much now in the modern form, but in the older form. When men use the upper extremities constantly they get stale, but the men who take long walks, and use their lower extremities, do not get stale in the same way, and that the number of men who fail in rowing, who break down either from heart trouble or diabetes, or albumen in their urine, of which one has seen a good deal lately, is almost entirely due to the use of the arms, throwing a great strain upon the heart and the circulation, and leaving the lower extremities completely out of training. If they are proportioned there is not so much danger, but there is a great danger of overdoing exercises that are devoted to the upper extremities, and most of our exercises for children, physical exercises and drill, are almost all devoted to using the upper extremities and not the lower. It is not natural; the lower extremity is the one that is meant for exercise for performances of that kind, and any artificial exercise thrown on the upper extremities should be quite subsidiary to the other, and certainly a very much less degree of strain should be thrown upon the upper extremities than upon the lower. If the two are worked together, there is not so much danger, yet the upper extremities should be used rather as an auxiliary than as the primary means of developing a child's strength or anybody else's strength, but especially a child's.

Upper and lower extremities: equal development necessary.

5727. But the grounds on which the conclusions of paragraph 5 are drawn, are from those things that you have stated, not from any abstract theory that man must develop further in proportion as he departs from the climbing type; it is not on any Darwinian theory that you go?—No, no, it is absolutely from observation of what happens to people who use their upper extremities to the exclusion, or not necessarily to the exclusion, but out of proportion, to the exercise which is thrown upon the lower extremities. But any excess of development of one part of the body to the exclusion of the rest is fraught with danger. Especially one sees it in cycling; nothing is more common. I have sometimes opportunities of examining recruits for one of our Volunteer regiments, and sometimes have the painful experience of rejecting men on account of some heart trouble, and all the rejections that I have had to deal with have

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been from cycling. You ask a man how far he has gone in a day. He says: 'Oh, I have gone 100 miles.' I consider a man who has done 100 miles in a day is never the same human being physically again; he is not such a good man after his 100 miles as he was before, and he never will be. It is a fact, I believe, although it may be a little foreign to the subject, that none of the cyclists in the French army at the last examination were physically fit to be admitted into the ranks, that their hearts had been so strained from their exercise in connection with the cycle work, that none of them were capable of admission into the ranks of the army. And in the German army I believe it is pretty nearly the same. Strain of that kind which is thrown upon the heart, without a proportionate development of the upper or lower extremities, is very dangerous, and seems to cause a number of heart troubles which incapacitate a man from doing his work in various ways. Any very special use of the upper extremities to the exclusion of the lower is still more likely to cause heart trouble in various ways. One particular form that one sees it, especially in rowing men from either Oxford or Cambridge, is hypertrophy of the heart, and also frequently albumen in the urine, when a man has gone in rather strongly for training. And the same in physical drill of children with heavy dumb-bells; in them the heart gets hypertrophied, and albumen in the urine is not at all uncommon; it is really almost, I would say quite, a common thing in children who are training for severe physical exhibitions, especially for the stage. My experience in connection with the physical exercise of children for the stage is not very much; I can only mention four cases that I know. Of course they happened to be brought because the children were not well. I cannot go beyond that, because I have not had an opportunity, though I have been trying to get it, to examine children, young children who are being trained for physical feats upon the stage and so on. My experience is that they get hypertrophy of the heart, and that they also pass albumen in the urine very largely from the use of lifting weights, and using heavy dumb-bells, clubs, &c., in connection with stage performances, and I also extend the same thing to children in schools when I see them using their upper extremities over much.

5728. These observations regarding athleticism, you think, should be kept in mind in regulating the principles of exercise for children?—I do.

Apparatus for boys of sixteen or seventeen.

5729. What is the reason why sixteen or seventeen is fixed by you as a minimum age for dumb-bells or gymnastics?—Well, it is partly on account of the sense of the boy as well as his strength, because at sixteen or seventeen especially boys grow. I think if they are going to grow at all, they grow at that age much more rapidly than at any other, and with a very quickly developing heart, or very quickly developing physique, to begin to throw a strain upon it at that age I think is dangerous; at the same time, after that age the youth has generally more sense, and if you tell them that they may hurt themselves if they do this thing, they are more apt to listen to you, but before that they have no conception of it, so that it is partly from physical observation and also partly theoretical, namely, that I think the child would be better able to follow your advice at that age than before.

Girls: gymnastics undesirable.

5730. Next, regarding paragraph 7, what evil would you anticipate might occur if girls were allowed to employ their upper extremities in exercises requiring anything beyond the slightest physical strength?—Well, it is a long subject. Girls are peculiar as compared with boys in regard to the use of their upper extremities, or even women as regards men. If a man uses his upper extremities much, you find that the muscles of his arm grow; his forearm grows to a great size, and especially his biceps in his arm you find developed to an extraordinary size, but no woman that I have ever seen has been able to develop the muscles of her arm to anything like the same extent. You see a woman on, perhaps, the cross-bar: what strikes you is the absence of muscle in the upper extremities. She is incapable of developing the arm to the same extent as a man; and a woman upon a trapeze in a public performance or in any gymnastic performance, one always has wondered how she does so much with such a minute amount of size of arm, and that her biceps muscle is only like a boy's, almost like an undeveloped boy's—even in one of the best-trained women for performances of the kind. It seems to me, partly theoretically from that very consideration and observation, that the development of the arm in women is not natural; it seems abnormal, physiologically considered, to develop it, and that it is not capable of being developed up to a very great extent. Of course, one may say, 'Well, of course, it is the 'lightness of the woman's frame that does not necessi-'tate her biceps growing to such a size,' but, taking weight for weight, you will find that while the man's biceps develops to a great size, and the woman's to nothing at all almost, still she seemingly can do a great deal with what is apparently a small arm, which, I think, is not calculated for the good health of the whole physique—that she cannot do the same as a man with a less amount of muscle; it is impossible. Given the same weight she ought to have the same developed arm, but she does not develop her arm in the same way, and I do not think it is natural to ask women to go through physical exercises of that kind to try and develop a member which evidently nature never intended them to develop. Besides, there are some other reasons for women not using their upper extremities, that their strength does not lie in their upper extremities apparently, but in some other part of their body, so I think it is against nature altogether to do it, and also experience, I think, has taught one that a woman using her arms in certain conditions does something very detrimental to her welfare.

5731. And all of these facts refer also to paragraph 8, concerning gymnastics, trapeze and cross-bar to any boy under sixteen or to girls at any age?—Yes.

Swimming strict supervision necessary.

5732. The next one is swimming: for what reason should swimming not be permitted to boys or girls under sixteen?—I only know, of course, from experience of myself and other boys that there is nothing so exhausting as learning to swim, and I do not know anything in which one is inclined to overdo it more than in swimming. If you leave boys to themselves of a summer day, they will go in before breakfast, go home to their breakfast, go back and swim in the water all forenoon, now in the water and now out, and the same in the afternoon. Boys left to themselves spend the whole day on the river bank, partly with their clothes on and partly with them off, and I think it is very dangerous to allow children to go swimming by themselves partly on that account. There is not the least doubt that swimming is a very great tax upon the upper extremities; it is a greater tax upon the upper extremities than it is upon the lower. The temperature of the water has a great deal to do with the exhaustion. If the water is very cold, the child loses so much heat by swimming in the water for twenty minutes, an hour, two, or three or four hours, if you allow boys to do it. I do not know much about girls in swimming, but I know that is how boys behave themselves; and if it is cold water, the amount of heat that they lose is very detrimental. If it is cool water, or water about the temperature of 65°, the loss of heat is not so great, but still it is very great compared with the temperature of the body. Anyone who has seen children living by the side of a river—boys and girls who have had a holiday by the side of a river—cannot but be struck with the state of anæmia that they are reduced to. Very often you find it is very lamentable. I have known girls who have practised swimming to a great extent in the Thames; they have been rendered anæmic; they have lost several of their natural functions, and out of a family of five that I recently observed last summer, three of the children, from an abnormal amount of swimming, had albumen in their urine, and all of them were rendered anæmic. I cannot speak for the albumen in the urine in many cases, because I have not had the opportunity much of examining it, but as regards the anæmia that is prevalent in children who are doing much swimming

in fresh water—I am not speaking about salt water—I think it is very dangerous to allow it to any great extent. Swimming every day for an hour for a child going on for three weeks will render that child anæmic and lower his physical strength. If it is a question of a child staying in under supervision for twenty minutes or a quarter of an hour once or twice a week, then I think the swimming will do good, but unless it is under strict supervision, I think the children are frequently very, very seriously affected by being allowed to swim without supervision.

5733. Then, from what you have said, we quite understand your conclusions in 10 and 11; we may therefore pass them over?—Yes.

5734. The twelfth paragraph refers to military drill. Do you consider that twenty minutes per day of five hours is about the proper proportion that should be maintained between physical and mental instruction?—Yes; of course I do not quite know to what military drill is intended to be limited.

5735. Take it as meaning physical training?—Instead of military drill?

5736. Yes?—The physical training, consisting of movements of the arms, like the Swedish movements; I understand that is the style.

5737. Yes; that and walking, and perhaps bar-bells, wooden dumb-bells, slight things of that kind, short of gymnastics?—Short of gymnastics, yes.

5738. In paragraph 13, at the end, what is your reason for thinking that children ought not to walk in step or keep line?—Well, it is not natural for a child to walk at all; a child either runs or skips, but children, as they get a little older, are condemned to walk at a particular step. Two people's step are very seldom the same; and the idea of a walk, walking two and two, the girls a sort of chained together, seems to me not to be a very pleasurable performance. It is certainly walking the children about, but they look upon it as being part of their school duty and not an exercise at all. By an exercise one rather means, perhaps, a pleasure; but certainly they take no pleasure in it, and they look upon it as being part of the discipline they have got to go through, this walking out two and two. And they have almost all got to keep step, and they have got to walk at the same pace. The children may not be the same age; the children in front may be older children, fifteen or sixteen, while the children coming behind may be of the age of seven, or eight, or ten, and these are sometimes compelled to keep the same step; at any rate they are compelled to keep the same pace, because they are walking through the street generally. The pace is set by the older ones, the ones in front, and it is not an exercise that is likely to do any good; there is no pleasure in it, and I do not think it is a good thing to see children walking through our streets two and two; they should be allowed to go as they please rather.

5739. Then in your concluding paragraph 14, your remarks regarding training and a weekly certificate, I suppose, refer entirely to those who are being trained for sports?—Absolutely.

5740. Do you advocate physical training in the Universities for every one?—Not in the Universities; I mean a man after seventeen or eighteen should not be compelled to take part in games except what he himself feels inclined to do. I would have them all compelled to undergo military training.

5741. *By Mr Alston.*—Professor Ogston might supplement his question by referring to rickets. I think Dr Cantlie has said that a good deal of rickets prevails within forty miles of London?—Yes, sir.

5742. The remark has been made in reference to Glasgow that rickets were very prevalent on account of the absence of lime in the water of Loch Katrine. I suppose that is not a defect of the water round London?—No, it is not the defect of the water in Hertfordshire, which is a chalky soil, and the water is very hard.

5743. How do they come about then?—Want of sufficient food or improper food.

5744. In Glasgow this ailment might produce a considerable number of children unfit for physical training; the question is what remedy could be found for it?—I think the chief cause of rickets is want of proper food, not always the want of sufficient food. The children you find about Hertfordshire, of the farm labourer there, are brought up on tea and bread and butter; they cannot afford to get milk; they occasionally may get an egg in the summer time; they have got a hen or two perhaps among the whole family, and they sometimes have a kitchen garden, and they generally can get cabbages, and the chief food the children have consists of bread, no butter, and tea and cabbage, and now and again cheese. In some of the outlying districts they may have a herring, bloater, and so on occasionally, but no fresh fish, and fresh meat of course is totally beyond them. Bacon you find occasionally, but fresh meat is absolutely impossible for them.

5745. And in addition to improper food being the cause of rickets, would bad accommodation in stuffy, small dark houses also produce it?—Absence of fresh air would cause rickets in addition to want of food.

Deterioration: reasons for opinion.

5746. Have you found any deterioration on account of modern conditions as to food, the old diet being given up in favour of inferior diet?—Do you mean Australian mutton instead of English mutton?

5747. No; I am rather thinking of tea instead of broth and porridge?—Oh, I have; yes. I do not think you can rear a healthy race upon tea and bacon in the country, but that is what they have been attempting to do for some time, and sometimes tea and no bacon, and it is impossible to raise a healthy race upon food of that kind.

5748. Have you noticed any deterioration in the present generation which I suppose is now the product of the tea-drinking and slops?—Well, it is difficult to know and to compare. In England they have been doing it for some time, but from what I have observed lately in Scotland they have taken very largely there to drink tea instead of milk; the farm servants indulge in tea, etc. more, instead of taking the porridge as they used to, and I think the children there are suffering very much more from bad teeth, and from adenoids at the back of the throat, and that they are much more inclined to anæmia than they used to be say forty years ago, when they used to have porridge and milk as much as they could get for their breakfast, and in the same way milk at all their meals, which I think was a very important staple food. In Scotland the quantity of milk had more to do with developing the children well than the oatmeal they ate. We find in many parts of England around large towns, they cannot even get the milk, it is so expensive; it is impossible for the children to get milk.

5749. Your first paragraph holds good, that country children in various parts of the kingdom are deteriorating, and that urban children in the larger towns of the poorer classes are deteriorating too?—Yes.

Physical training without fresh air of no value.

5750. Then without the food, without the air and the other good conditions, no amount of physical training in the schools would effect all that it might do?—In regard to the air there is not the least doubt that the physical training, if it is done out of doors, will do some good, but that much physical training within, say, a radius of three miles of Charing Cross, is likely to do anybody any good, I do not think so. We cannot get fresh air in the Strand; we have not had any fresh air in the Strand for, say, 100 years; you cannot get fresh air when you have got 1,000,000 people between you and the outskirts. The air coming from any direction has to sweep over that 1,000,000, and they not only take the goodness out of the air, but they add their own breath to it, and that of their horses and cattle, and the air out of the drains, and then it is sent over the central part of London. It is doubtful whether physical exercise would do people much good in such an atmosphere. The proposition may be stated thus: Would a man live longer in such an atmosphere as that of the underground railway if he were to sit still or take violent physical exercise? My impression is that in a bad air like that of the

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underground railway the more you take of it the worse you will get. Of course London is differently situated to all other cities. I do not think in the Scotch towns, except perhaps central Glasgow, the same rule would hold good.

5751. Apart from the air and the other good conditions the poor children have in the country Board Schools, if you found they were insufficiently fed would you make it a rule that good food should be procured for them in some way?—I should in some way, certainly.

Deterioration: data and conclusions.

5752. *By the Hon. Thomas Cochrane.*—I should rather like to ask you how you form the conclusion that children both in the country and the towns had deteriorated; what data have you fixed upon?—Well, some fifteen years ago I took a considerable amount of trouble over the question of the town children.

5753. In any of the towns?—In London, and inquired in various directions, and got the history of about, I think, 1500 or 1600 families.

5754. How did you make your inquiries?—From the families themselves.

5755. Personally?—Personally, oh, yes; I took a good many years to do it, and it was published in the work that Professor Ogston referred to — called *Degeneration amongst Londoners*, in which I failed to find what was called a third generation, and that I never found a third generation of pure Londoners; that is to say, a pure Londoner is a man whose opinion of a holiday is an occasional run on a bank holiday to a seaside place; if he does not have enough money he does not get away that year, and he is living within the radius of, say, three miles from either the Bank or Charing Cross. Within that area there are about two millions of people who had never got a holiday at all, beyond an occasional run upon a bank holiday, which likely did them more harm than good. Amongst those people there was no such thing as a third generation; that is to say, that the father and mother might both have been born in London, but it was impossible to find anybody whose grandfather and grandmother had been born in London; that the nearest one comes to it is to find, say, was a grandfather born in London and a father and mother born in London, but with a grandmother coming from the country; the specimen of human being born of such antecedents is not an ornament to the race. I described then—at some length—a number I met whose grandfather or grandmother came from the country, but whose people afterwards belonged to this area, that I defined, in London; that these creatures, when they married, had no health or physique and they never had a child, that there was no such thing as a fourth generation. Of course this has been cavilled at in many articles; it has been sketched in the comic papers and so on, and a great many replies have been made to it just lately within the last six weeks—on account of the article which appeared. I wrote to each one of those men who said that his grandfather and grandmother had all lived in London, and I found that these people and their fathers before them had been able to afford three weeks' holiday at the seaside in the year, or get away at other times when they were not well; they were not Londoners. There is a number of poor people, however, who never get out of London except for an occasional holiday; these people cannot go beyond the third generation. In regard to the country, of course, it is different; they are always coming and going there, and I have no data of that kind to go on in connection with the country—only just simply personal observations in regard to the condition of the children that one sees about country villages.

5756. Then from your general experience gained in pursuit of a different object, you came to the conclusion that the children were deteriorating in the towns?—That class of children; the middle class children are going up, I think, in every way—the girl and the boy.

5757. Did you make any similar researches in the country, or only formed a general conclusion?—Only what I saw in the country, and not in regard to the parentage.

5758. In one county you examined you found the children were suffering from rickets?—Yes. *Mr J. Cantlie, M. F.R.* 28 M.

5759. But you infer from that that the children generally were deteriorating in the country?—Well, one pretty large district in Hertfordshire which I know; another was a district in Kent, and another was a more limited experience in Buckinghamshire, but they were all near London; I cannot go beyond London or the South of England.

5760. You have not made any special inquiry into the condition of the children of the poorer classes throughout the United Kingdom?—No, not personal enquiries; the area is too large.

5761. This is merely your opinion gathered from special local inquiries in particular districts in the neighbourhood of London?—In the neighbourhood of London.

5761A. The Commission are not to take it as your mature opinion regarding the United Kingdom that the children are deteriorating?—No, I cannot affirm what I have not seen for myself.

5762. You place it down as if it were a fact?—Yes.

5763. I should like to ask you one or two points as to the exercises and games. I gathered from the general remark that you made that it depended on the moderation with which these exercises were used?—Yes.

5764. The instances you brought before the Commission of Inquiry were from the excessive use?—Yes.

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5765. But that on the whole you think a certain amount of physical exercise is an advantage to every child?—Yes.

5766. And you do not really differentiate between exercises of the upper or the lower extremities so long as they are carried out under due supervision, and with moderation?—No.

5767. You instanced cases of over-rowing and over-bicycling which would apply equally to the upper and lower extremities?—Yes.

5768. On the whole you think moderate physical exercises are of advantage to the child?—Yes.

5769. The same would apply to paragraph 6, in which you say that till the age of sixteen or seventeen dumb-bells should not be allowed; but suppose the dumb-bells be of a moderate weight—a few ounces—you would have no objection to them?—No; not with these light wooden things.

5770. You object to a man being a Sandow at sixteen?—A Sandow at sixteen.

5771. You would not object to his going into physical exercises on right instructions?—No.

Girls.

5772. You thought that girls should never be allowed to employ their upper extremities in exercises requiring anything but the slightest physical strength, and you gave us a most interesting account of the physical development of the arms in the two sexes, but I did not gather what evils from your large experience had resulted from women using their arms—their upper extremities?—Well, mostly women's diseases, I think, come from such strains, that they get their womb misplaced; that is one very common evil, and that the strain in a woman is from her pelvis more, and her focal points of strength is from there, and that the strength that she is asked to exert starts from there more than in man, and consequently there is more strain upon these parts, and they are the cause of sterility in the female and various troubles one finds in connection with female organs.

5773. That again would apply to women who over-exerted themselves?—Yes, of course, to produce over-exertion in a woman does not imply much physical expenditure.

5774. Women who went in for gymnastics?—Yes.

5775. But not in the physical development of a girl who went through the ordinary course of properly supervised physical training?—No.

5776. You would anticipate no disadvantage to a growing girl from any well-regulated course of physical training?—Provided that her upper extremities are not over-taxed.

5777. Are not over-taxed; if it is done under proper instruction and proper supervision?—Yes.

5778. And the same would apply probably to swimming?—Yes.

5779. For boys, you have instanced the case of a boy being in the water for long periods, half an hour to three or four hours?—Yes, but boys do; it is one of the dangers of teaching them swimming that they go and do that.

5780. They do if they are not under proper supervision; still a short exercise of ten minutes in the water is very beneficial to most boys?—Very beneficial to most boys, teaching them a useful thing to do; the danger is only when without supervision.

5781. *By Sir Thomas Coats.*—I think you said in reply to Professor Ogston that you would not advocate compulsory training of youths above seventeen or eighteen; was that correct?—Yes; compulsory games; military training, yes.

5782. Is your reason for that that you do not think it necessary, or do you think that it would be detrimental to the health or the development of the boy?—I do not think it is becoming necessary for men to indulge in boyish games.

5783. You think that they would do it themselves?—A boy of that age ought to know himself; he ought not to be allowed to go and do what he likes after that age, but that he should be driven to play games after eighteen I do not think is necessary.

5784. But in the army recruits have got drill after that, and there is wonderful development in strength?—Well, I was referring more to games; I was not referring to such a thing as military training. In regard to games, a boy should not be compelled to turn out for football or to go to the cricket field after eighteen. I think it right below seventeen that he should turn out in the football field and the cricket field under the direction of his teachers, but after that age he ought not to be compelled to play games. It is a different thing with physical training, such as military exercise. I think he ought to be compelled to take it.

5785. *By Mr Fergusson.*—In the second paragraph you say country children require no additional exercise except military drill; why?—Well, if they get a good walk to school in the country, I think that is quite enough without anything more.

5786. Do you consider that a walk to school is as good as, say, the Swedish exercises, in which every part of the body, and especially the weak parts, are attended to?—I think the child who has got two miles to walk to school and two miles back has done enough for the day; I do not think Swedish exercises or anything else should be imposed upon it after that.

5787. May not special exercises counteract an inclination to be pigeon-breasted or flat-footed?—Yes, if the child is pigeon-breasted it would likely do good, but I should think if it is walking a considerable distance every day in the open air and it is getting a fair amount of food, its condition would be just as well improved. But there is no reason why they should not have Swedish exercises.

5788. You do not attach much importance—I am not speaking of exercises designed to make a child an athlete?—No.

5789. But simply mild exercises such as in the Swedish system?—Yes.

5790. All the lower and upper extremities, tip-toe and stepping, and teaching a child to walk and carry himself properly, and so on?—Oh, I think they are very desirable so long as you do not over-tax a child. A child living in the village and going to school next door would require a different amount of exercise to a child that has to walk a good distance to school; that was my idea of it.

5791. It is more easy to overdo it, I suppose?—A child has only got so much physical force to expend, and perhaps it expends as much as it can afford in walking to school two miles there and two miles back, four miles altogether.

5792. Does not the mental exercise fatigue a child; if you lessen the mental work and increase the physical work, you do not arrive at any very serious result do you?—No, I suppose not; but I think if it has got its fair amount of mental work, and then has got some training as well, and then a considerable distance to walk to school, and a considerable distance to walk back, I think you take too much out of it.

5793. You are dealing with training that was designed to make athletes, and not simply attention to rules of health, making a child physically fit without developing his muscles in any particular way?—Yes.

5794. Is that not so?—Perhaps I was; yes.

5795. One other thing, you said in Scotland the modern diet led to anæmia in children. We were told by a medical witness that that was so. But he said that though that was so in the children, his experience was that they grew out of it, that it did not do the grown-up men and women any harm. The man was as good a man still. What do you say to that?—I do not agree with it.

Boys at public schools.

5796. *By the Chairman.*—I just want to ask you, have you any experience of the upper class preparation schools and public schools?—A little.

5797. You know there that almost everything that you have condemned is extensively practised, and has been so for many years past?—At upper schools?

5798. At what I call upper schools—preparatory and public?—Yes.

5799. Do you know that everything that you have condemned has been practised there for years and years?—I have been condemning only over-exertion and exercises without supervision.

5800. And what deterioration has occurred owing to that?—I do not think boys have advanced as they ought amongst the upper-middle classes.

5801. I am not talking about the middle classes. I am talking about the upper classes?—You mean the boys at public schools?

5802. And preliminary preparation schools?—Like boys at Eton?

5803. I am going far back—younger children than that, children from the age of ten, or even nine?—Boys I am mentioning—boys and girls.

Girls improving in physique: boys not proportionately.

5804. No, I was not mentioning girls?—Well, I do not think the boys are advancing. I think the girls are. I think the amount of exercise that has been given to girls lately has improved them, but I do not think the boys are improving in the sense they ought to be—they are not improving in proportion to the girls.

5805. I ask you what deterioration have you noticed having occurred from almost everything you have condemned having been practised say for the last twenty years with those upper class of schools?—That those who overdo it break down, and a great many of them break down between seventeen and nineteen, just when they are entering say at Oxford, when they take especially to rowing. They are these men or lads who, having been overdoing it, break down very frequently, and that at schools they are not likely to be allowed to overdo it—there they are superintended more.

5806. I am going beyond that. I am saying that they actually do from my knowledge exactly what you are saying, as they are doing and have been doing for twenty years, that they are not superintended, they are not looked after, they do the very thing which you condemn, and I want to know what deterioration you see from that in the upper classes?—The deterioration you can only take as proportionate.

5807. I am rather contending that there is no deterioration, and I should like to know from you whether you think there is, that is all?—My only idea of it is by comparison.

5808. Yes?—Namely, that girls are improving in physique and boys are not; that boys in the upper classes are not improving in physique to the same extent as the girls are.

5809. I do not know whether you know it, but will you take it from me that as a general rule most of the officers who enter the army, their standard is higher than it used to be?—Yes, boys are improving, but

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they are not improving to the same extent as the girls, because, in the first place, I think the boys are improperly clad, and that they very frequently overdo it in some ways. But especially I think it dates further back. It dates from a younger age than that. The clothing of our boys has changed lately. The clothing of our children has changed within the last fifteen or twenty years. It is not at the period of college or school that the trouble is; it is before that. The boys used to be kept in frocks up to the age of six and seven and eight. Now at the age of two-and-a-half or three they are put into the lightest clothes possible—generally a little light cotton jacket, a sailor jacket, with little cotton drawers, or something of that kind, or knickerbockers open at the bottom.

Boys and girls: clothing.

5810. Brittany trousers?—And that was not the custom some time ago. Girls are clothed much more sensibly than boys at the present day, and the exercise which the girls have been allowed to get during the last fifteen years, *plus* their wise clothing, has developed them much more than the boy. I do not think they are overdoing in many schools You say that they are not superintended. I do not know enough about different schools to say they are; I thought they were, but I do not know enough. In regard to their clothing, there is not the least doubt, I think, that the clothing of our boys has changed within the last twenty years. They are made little men of long before they used to be, and their mothers like to see them dressed in these clothes. If one weighs them, one finds a boy's clothing, say of three, and a girl's clothing of three, that the girl's clothing weighs 1½ lbs. more than the boy's clothing of three. The boy is insufficiently clad. He is starved, and it is at that date that the trouble begins, not later. The teeth trouble is a great trouble. It is too big a subject to go into the question of hand-fed children and mother-fed children; that is too big a question; I think the reason, that our men are not developed, our young lads are not developed in the same proportion as our girls are, is very largely due to the fact of insufficient clothing in boys. I suppose it was national prejudice; but I advocated very largely that a boy should be continued in the same sort of dress as a girl was up to a certain age, and that if he could not be content to be kept in frocks, that he ought to be put into a kilt, and kept in a kilt till he was seven or eight, which was practically an identical dress with girls. That would keep his loins warm, and other vital places that ought to be kept warm. I think the trouble dates before school life, the trouble with men; but there is not the least doubt that about the age of sixteen or seventeen, a boy, if he is under good conditions then, can recover even from physical deformities or physical detractions that they are afflicted with at an earlier age. They do seem to recover if they are well looked after about the age of fifteen, sixteen or seventeen, and they are able to throw off some of the ailments of childhood or inferior development of childhood which look as though they were bound to go on. When one takes a boy of ten or twelve, he looks very often a physical wreck, and very often at the age of twenty he has recovered. I have not the least doubt the care and nourishment and physical training has had a good deal to do with it; but to start a child with carious teeth, or starve a child by improper food or insufficient clothing, and think he is going to grow into as good a man at twenty as another boy who has not been through that severe ordeal, is, I do not think, quite to be supported, although they do recover in a most marvellous way.

5811. *By Mr Shaw Stewart.*—On the point that girls have improved in so much greater proportion than boys, is it not the fact that girls have within recent years had more physical training and exercise than they used to have?—Yes, and I think that is the reason that they have improved.

The witness withdrew.

Mr Wm. Hunter.

Mr William Hunter, examined.

5812. *By the Chairman.*—You are a builder, residing at Marionslea, Rothesay?—Yes, my lord.

5813. You have been a member of the Rothesay School Board for seventeen years, and Chairman for five years?—Yes.

Rothesay School Board.

5814. Perhaps you would kindly read your notes?—The population of Rothesay is 9323. There are two schools under the management of the Rothesay School Board—the Academy and the Public School. There is also a Roman Catholic school, and one or two small private schools. The number of pupils on the roll of the Academy is 343, and of the Public School 963, and the total number of pupils on the rolls of all the schools is 1518.

Physical training described.

A fully-equipped gymnasium has been provided in the Academy. There is a large hall in the Public School in which the pupils get physical exercise. The gymnasium in the Academy is made use of for ground physical exercises. In the Academy each class—boys and girls—from infants to the second highest class, has a course of drill and physical exercises under their respective teachers. From Class V. the boys and girls are exercised separately. In the Public School military drill is given to the boys, from Class III. upwards, by the drill instructor of the Rifle Volunteers. The girls in the same classes get physical exercises under their respective teachers. The infants and Classes I. and II. have physical exercises.

Gymnastic classes are held in the Academy for pupils from Junior Class III. upwards on Friday evenings and Saturdays. These classes are quite separate from the ordinary school classes, and a fee is paid by the pupils who attend. There are about 60 pupils attending these classes at present.

Some years ago a class was held in the Evening School for a special American drill. The class was very successful and beneficial, but could not be continued owing to the teacher's return to America.

The beneficial result of the physical training in the schools seems to be largely minimised owing to the want of continuity. The training should be continued by the formation of cadet corps, by attendance at special classes for physical training in connection with evening continuation classes, but free from the present Code restrictions.

Teacher ordinar

5815. *By Sir Henry Craik.*—In what hands is the physical training in these schools—that is, of the ordinary teachers or special experts?—The ordinary teachers.

5816. You have no special experts?—No.

5817. Where have the teachers obtained the instruction necessary?—Well, it is difficult to say—such instruction as they have. A large proportion of them reaped considerable benefit out of this winter class that is referred to.

5818. Where is that referred to?—It is referred to in the second paragraph.

5819. That was a class for teachers, was it?—Yes; it was a class for rough boys and girls in the town; that was the origin of it, taught by a former pupil who might be called an expert, and the teachers, thinking it was a possible advantage to them, asked a few nights and got them very readily.

5820. Can you tell us what were the special features of this instruction?—I do not think I could verbally describe it—it was an exact copy of what was drawn up by a professor that was employed regularly by the Young Men's Christian Association in Harrisburgh, Pa., U.S.A. They had a first-class gymnasium there, and employed a professor, and he had developed this system from his life's experience—probably it would be British and American, a mixture.

5821. But you cannot pronounce as to any of the many systems that are at present in use in England and Scotland as to their merits?—No, I cannot.

5822. You cannot even say which of them is followed in your own schools?—I do not think there is any particular system followed; that is my impression.

5823. And the teachers have really, so far as you know, no means of learning in your system?—They have no special means of learning a system; but still a number of them have got up what they do teach very well, but how they got it up I do not know.

5824. You do not know how they have got it up?—No, I do not.

8825. Have you never as a School Board thought of employing an expert instructor on this subject?—No.

5826. You have no janitors who are retired non-commissioned officers?—No. We have sufficient of these men, but none with sufficient capability to interest grown-up lads and maintain it.

5827. But the janitor?—The janitor in the Academy is a military man.

5828. Does he do any drill?—Not now.

5829. But you have never thought of establishing, with the aid of the grant of the Department, classes for your teachers where they could obtain such instruction in the most approved system?—No, because we never could see where the grant came in appreciably.

5830. Are you not aware that the Department offers grants for classes for teachers under the Code?—Yes, for teachers.

5831. Why would you not have the classes for the teachers under the Code and receive grants for them in this subject?—Because it would, as we are situated, involve a considerable amount of expense.

5832. But you are aware the Department would pay three-fourths of that expense?—If you say it I am aware of it, but I would not have been inclined to think it before.

5833. Are the Circulars from the Department brought before the School Board by your clerk?—Yes; they are regularly, and we give them the best consideration we can.

5834. Are you not aware that a lengthy Circular was very carefully addressed to the School Board explaining this some time ago, and inviting you to propose classes for teachers?—No, I do not think that we understood that for this particular subject the Department would be prepared to pay three-fourths of the expense. On the strength of that Circular, the Board has carried on a Special Class for Teachers in Free-arm Drawing, Brush Work and Clay Modelling.

5835. Of course it is regrettable, is it not, that the School Board did not inquire, because many other School Boards have used this, and are obtaining grants to a large extent for it?—Of course our difficulty is that it means an enormous amount of money to send teachers to a centre where it is obtainable.

5836. But you do not want to send them to a centre?—Well, but we would require an expert.

5837. Certainly?—And that all means expense.

5838. But, as I say, the Department would pay three-fourths of the expense. We need not pursue that, but you feel that your teachers are in want of some extra training in this subject before their teaching can be very thorough?—No; I think they are quite equal to all that we are attempting at present; but I think that if more were desired, they would be much the better if the interest was to be maintained to get a more thorough grasp of it. That is what I mean.

5839. But the School Board have not turned their attention to the various systems and attempted to judge which of those is best, or how far their teachers are trained to give instructions in any special system; you have not turned your attention to that as yet?—No, because we are under the impression that even if the teachers had the qualification, they have not time. We have not been able hitherto, even with the help of the teachers, to devise a plan whereby we could devote more time than we are giving them at present, even if we had more fully qualified teachers.

5840. But the education of these children being entrusted to your care, you would not exclude physical training more than mental, would you?—I think we are not doing that.

Physical and mental training.

5841. You think that time must be found for the physical as well as the mental?—Not necessarily.

5842. You think that the mental comes first and the physical must take second place?—Yes. We have the impression that the Code requires so, of what I understand you to mean by mental work, that it demands nearly all the time we are able to give it; that is what I meant.

5843. Perhaps you are not sufficiently acquainted to point to the Article in the Code that lays that burden upon you?—No; but we have a more useful and more practical thing in some of the inspectors three or four times in the year that insist upon these requirements, and they are really the interpreters of the Code.

5844. And do you find that they do not ask for any physical training?—They have not asked for any more than we are giving, and they seem to be well satisfied both with its amount and quality, and they have never indicated that we were able to give them more.

5845. Have you found much interest in the parents in this part of the education?—No, not much, I think.

5846. Have any of them objected to it?—No; we have an annual exhibition on the part of public school children.

Exhibition.

5847. Do they take much interest in that?—Yes; the largest place we have in the island is packed, and it is mainly through the interest in this demonstration—the physical demonstration—and it is really well done. I do not think that any amount of training could make it better. Of course a special effort, you quite understand, is made, and special time devoted, perhaps, for a month just before the demonstration comes on.

5848. Your Academy is a higher class school?—A higher class school.

5849. A fee-paying school?—Yes.

5850. And attended by the better class of children?—Well, it is mixed.

5851. But better than the others?—Yes. Yes, a good deal better than the others.

Playground.

5852. And has it a playground?—Yes.

5853. Better than the public school?—No.

5854. Not better?—No; not nearly as good; bigger, but it is badly situated for the purpose of playing. It is a picturesque thing; it lays on a beautiful slope. It is nice to look at, but for playing it is middling only.

5855. That is the playground in the better class school?—Yes; just built on the side of a hill.

5856. Are the games carried on both in the Academy and in the ordinary Code-aided school?—In the playground.

5857. Are these games carried on in both equally?—No.

Playing field.

5858. In which?—The Academy rents a field for cricket and football, etc.

5859. How is the expense of that field met?—Well, we just meet it among us.

5860. You do not meet it out of the school funds?—No, we have not paid a fraction to it.

5861. When you say 'we meet it,' does that mean members of the School Board or the parents?—And friends; yes, I mean that, all three.

5862. But there is no such opportunity for those attending the public school?—Well, there is just this, they are not so exclusive, and there is a large park in the immediate neighbourhood, and they have not the same need. There is a large public park fit for any ordinary purpose of that kind, and quite conveniently situated, and their playground is really good for the purpose of ordinary play.

5863. So that you think that for games both the schools are equally well situated?—Yes, I think so.

Continuation Classes.

5864. You are in favour of having physical training in connection with the evening continuation classes. What are the restrictions in the Code which raise a difficulty as to that?—The class that would receive the greatest

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amount of benefit is what you might call the lower class of the lads and girls—the least educated; they drift off at the earliest possible chance that they can get. Well, the requirements laid down for them in the first course seem to be quite full enough without physical training. In addition to that, it is not one of the optional subjects in that course.

5865. Have you never attempted it under the fourth section or auxiliary classes in the Continuation Code?—No, because we have not a man to do it—not to do it well enough.

5866. Quite so; but that is more from the want of a teacher than from the restrictions of the Code?—We think this first course mentioned renders it absolutely impossible. It would require to be modified somewhat, because there is sufficient in this single course to take up all the time that these lads would be willing to give to anything in the shape of physical training.

5867. I understand it was the difficulty of finding a teacher that prevented you taking up the auxiliary class under the fourth part of the Code?—Yes; it was too small an affair to make it worth our while to go into it.

5868. You do not think that the grants for those auxiliary classes are enough for the need?—Oh, they would be no use for all we could get; we would only get a mere handful unless we could by some means bring in this large section.

5869. But you take classes under the first part of the Code?—Yes, I think these are the parties that it is most desirable to get in. We have the impression that that is so.

5870. *By Mr Shaw Stewart.*—Have you any evidence to give us as to the beneficial results of physical training of lads who come into the building trade?—Oh, yes, I have in a general way, but I could not specialise, I think.

Physical training and games compared: more of former desired.

5871. Could you tell me, when you find a lad who has done well in physical training, whether he makes a better tradesman than one who has not been so well physically trained; perhaps you have not had sufficient chance of comparing the two?—Oh, yes, I have had, and I am afraid I am a little prejudiced.

5872. In which way?—Not in favour of the lad who is fond of a lot of that kind of training.

5873. Oh, but that is rather important?—Yes, but it is unfortunate that it works out like that in practice.

5874. Would you kindly amplify that answer a little?—Our most strikingly athletic young men, footballers for instance, and runners, do not turn out any more useful tradesmen, scarcely quite so useful, in practice as the more ordinary lads. I am just stating what is a fact, and what I am quite conversant with.

5875. Let me emphasise physical training as apart from games?—Yes.

5876. Is it your experience that physical exercises help dexterity of hand and discipline to a certain extent which come in useful in after-life?—I am quite sure it will do to a large extent; but I could not say that my experience would lead me to pronounce in favour of the lads of to-day as compared with those of twenty years ago, who got next to nothing of it; but it is not because of the physical training of to-day; no, I want to differentiate.

5877. It is owing to other circumstances?—Yes.

5878. Changes of modern life?—It is so, I believe, and that in spite of their physical training they are less useful lads than they were twenty years ago, by a good deal.

5879. But you would not, by any means, wish to diminish physical training?—No; quite the reverse.

5880. You are alluding more to exaggerated love of games as against work?—That is what I am alluding to, and I do not want it understood that I am insinuating that it is because of that; but if we were going to do anything more in the shape of physical training, I think we would require more money, and more time because we could do nothing better than we are doing without a specialist, and no matter what amount of training our teachers get, they could not be brought up to the mark, I think. I am speaking advisedly.

5881. *By Sir Henry Craik.*—But you did find that this special American drill was very useful, and you were obliged to give it up because he left?—Well, he was an old scholar, that is actually living in America, and he was home for a winter; but it answered the purpose first-rate to maintain the interest if we could get anything like it. I think we could hold the lads. There was dumb-bell exercise mixed up with it.

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5882. *By Mr Shaw Stewart.*—One more question; as a member of the School Board are you in favour of compulsory attendance at continuation classes?—Yes, I am far more in favour of that than of compulsory attendance at day schools up to fourteen. I confess that frankly I would readily compel to the fullest extent possible lads to attend continuation schools until they reached a certain standard of excellence, no matter what their age was.

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5883. You attach great importance to that?—So long as it did not deprive themselves or their families of their aid of living; but I am sorry I am not strong on the idea of keeping them to the very last moment at the day school; I would rather see them away earlier; I would rather compel them to come back three years than keep them one year extra clear of earning. That is my own feeling.

5884. *By Mr Fergusson.*—I rather gather you do not care much for the enthusiastic football player?—Well, perhaps I know too much about it. If you have five apprentices, or six, all enthusiastic footballers, and you are at your wits' end to know what to do with them, you can readily understand that you are not very unprejudiced.

5885. I quite agree with you, but are you not confusing physical training and games? What I think you were being asked about was exercises which were to promote the health of the mind and the body of growing children, not games such as football which takes apprentices away, exercises which are designed to develop and make the boys and girls physically fit for their work in life, whatever that may be?—I think as I understood it I answered that question fairly, and I think the way the question was put to me led me a little further, and I may have exceeded. I thought it led me on to lads, because the question was really, did I find lads who were fond of that kind of thing not turn out better than the other lads, and I thought it led on to that.

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5886. Do you find lads who had physical training—who have had these exercises and been made healthy and strong, do you find them more useful as workmen than lads who go slouching about and have had no discipline knocked into them at all?—I do not say that I have an opportunity of forming an opinion on that score—I doubt it.

5887. How long a time do you give in your schools to physical training?—Oh, from about one hour in the week in some cases, but in some cases not more than half an hour.

Time

5888. Are the members of your School Board as a body well affected towards physical training?—Oh, yes.

5889. They do not object to the drill?—To what kind of drill?

5890. What is called military drill?—No; but they think that the other is a greater attraction, and is actually more useful.

5891. But they are afraid to devote any more time to it in case they do not get such good results from the book work?—Yes; there is something in that, and the inspectors state that they are more than satisfied with the results of the military drill that they are getting. They examine them very carefully.

5892. They do not encourage you to do any more?—No; not so far as we understand it.

5893. You have special displays which are very popular?—Well, we have one every year—at least one.

5894. Of course you see there again they are not designed to promote the health of the pupil. This is rather a subject got up for show?—It is just a development of what they are doing all the year round, just a little more of it packed in.

5895. You put on a little special pressure for a month?—Just beforehand, and that goes over the whole school.

5896. *By Professor Ogston.*—I want very seriously, Mr Hunter, to have your opinion upon this aspect of the question. Do you think it is possible, where excessive football mania and rowdyism and hooliganism in young men are an expression of a natural desire for physical exercise coming on at a certain age, it might have been prevented had those lads been judiciously trained to employ their physical activity during all the years of their school?—I think that it might have some effect in that way; I think so, if it were sufficiently good and enough of it.

5897. *By Sir Thomas Coats.*—Have you a technical school in Rothesay?—No.

5898. You have no technical teaching?—Well, no, in the ordinary sense of the term, but in the evening continuation school we have a large and most successful class for Building Construction, and we have an advanced department.

5899. My reason for asking this is, I wanted to put another question. You employ several apprentices, do you not?—Yes.

5900. Do you make it a condition when you take these apprentices on that they go to continuation schools?—Yes; at least I stipulate one class. Of course I follow a particular branch, and I stipulate that they attend every class held where Building Construction is taught. I make that a part of their indenture of engagement, and they are as much bound to attend those classes as they are to perform any ordinary duty connected with their trade. Of course it does not entail any expense on them, because the Board, while they charge a small fee to begin with, return it at the end of the session if the pupil attends fairly well; and we do not insist on great things, but if they attend fairly well and manifest interest in the class, it costs them nothing.

The witness withdrew.

Mr J. Bannatyne, examined.

5901. *By the Chairman.*—You are Chairman of the Kilbride Parish School Board?—Yes, my lord.

5902. Perhaps you will kindly read over your notes to the Commission?—I beg to state that the only existing opportunities for physical training as at present carried out in the schools under the Board of Kilbride are, the teaching of musical drill, and physical drill of an elementary character, meeting the requirements of the present Code.

The schools of Corrie and Lamlash are taught by the teachers, while the schools of Whiting Bay and Brodick receive instruction from Mr Robert Allan, who holds a school music teacher's certificate, and is appointed an examiner.

So far as the Board are aware, there are no schools or colleges that hold examinations for certificates for teaching drill. The late Mr Bathgate, H.M. Inspector of Schools, expressed himself as highly pleased with the result of the instruction given by Mr Allan, and the other schools under the Board made a very good appearance.

At Lamlash, during the session of 1900–1901, a few local gentlemen formed a Boys' Brigade; they were instructed in drill by a local party who had been in the army for a short time. The following winter the Brigade was taught by a coastguardsman who was stationed at Lamlash, and the Chairman of the Board was personally interested in the Brigade, and is of opinion that an arrangement of a similar nature, where the services of an efficiently trained coastguardsman could be made available, would be most beneficial. If such instruction was available, continuation classes for physical and military drill might be maintained under the supervision of a committee appointed by the School Board, and if an annual inspection could be made, and a grant given according to results, it would contribute to the success of such a scheme. But the isolated position of some parishes would demand a higher grant than that given to towns or large centres. The Board would also suggest that an allowance might be made to provide apparatus, etc.

5903. How many schools have you under your School Board?—Four.

5904. Are they a long way apart?—About eighteen miles from the one in the south to the farthest in the north.

5905. Well, that is a considerable distance?—A considerable distance.

5906. Does the School Board make a practice of visiting these different schools in rotation?—Yes.

5907. Just to see what is going on?—There are five members of the School Board, and in each district the member takes an interest in the school next himself and visits the school regularly and signs the log book occasionally.

5908. Then you have not anything in the way of continuation schools, I suppose?—Not in the way that we in Arran are situated. As soon as the young men are quit of the schools, they are off to town to business.

5909. The young men as soon as they are quit of the school?—They go to the city to learn trades, or as clerks or something of that sort; there is no employment for them in our district.

5910. And they do not remain there doing nothing?—They do not remain there doing nothing; they are off to business of some kind or another.

5911. *By the Hon. Thomas Cochrane.*—What is your profession in Arran?—Hotel-keeper and farmer in Lamlash. I am situated about the centre, very near the centre of the school district.

5912. *By Sir Henry Craik.*—You spoke of the instruction as being given by Mr Robert Allan, who holds a school music teacher's certificate and is appointed examiner; how does that qualify him for giving instruction in this subject?—In musical drill, sir.

5913. I say what do you mean by his being appointed examiner?—He has got a certificate, I understand, from some musical association to be able to teach the musical drill in schools.

5914. Of course in your neighbourhood the boys get plenty of fresh air, and I suppose a good deal of healthy exercise out of doors?—Oh, they do, outside, and a great number of them are employed on very little farms; during the season, harvest time and spring time, they get lots of physical training.

Swimming.

5915. Do they learn to swim?—Very few of them.

5916. Why is that, with the large opportunities that you have?—Our former teacher at Lamlash took a great interest in teaching the boys to swim, but somehow or other he never could get a very large class. The visitor boys that come from the cities are all good swimmers, but the boys about our own doors are not good swimmers; they seldom take to the water even in the hottest of weather; I cannot explain how it is.

5917. Does not that look as if they were not trained to the use of their muscles?—When the boys get a holiday with us we find they are more inclined to roam about just on shore, and go in for a little football or cricket or something of that sort, more than swimming or aquatic sports. But they have very fine pure air; they have plenty of that in our country.

Health of district.

5918. But you really have not found any defect from the want of systematic and thorough drill or physical exercises being given?—No, sir, no, I cannot say that there is anything of that. Taking the whole population, they are particularly healthy and strong; the children are all very healthy and strong.

5918A. And, of course, they are a well-to-do population?—Fairly well.

Mr J. Bannatyne. 28 May '02.

5919. You have a very small poor roll?—Very small, sir, very small indeed.

5920. There are no tenants allowed to stay there who are not pretty well-to-do, are there?—The tenants are all fairly well off, sir.

5921. Do you find that in after life, when they go to the towns, they are healthy?—Oh, generally, sir; yes, they keep their health; the most of Arran lads that have gone go either to Glasgow or other towns or then go abroad; they seem to keep their health very well indeed, sir.

Boys' Brigade.

5922. *By Mr Alston.*—With what church was the company of the Boys' Brigade connected, can you remember?—Just with the village; the whole district.

5923. Was it a combination of churches?—A combination of churches.

5924. They all take their share?—They all take advantage of it.

5925. Is yours the church that is referred to as being specially interested?—Yes.

5926. And you found that it did good?—It did a lot of good; the boys were very much interested in their drill.

5927. Did you manage to get officers for the company?—Well, they were in a sort of a way; they were very junior, of course, but there were officers just amongst the boys.

5928. Amongst the boys?—We had no officers—seniors at all.

5929. Was there any difference made between the officers and the rank and file?—One or two of the larger boys were really taken and selected out.

5930. What knowledge of drill had they?—They had none whatever.

5931. You depended upon the coastguardsman?—The coastguard officer.

5932. Would it be possible in Lamlash to get suitable men to be officers; some of the deacons of the church, for instance?—Well, I do not think it would be possible, sir. The population of Lamlash is not a large population, and I do not think we could.

5933. Perhaps from what you say of the company as it stands you think it is a move in the right direction?—I do, sir.

5934. And it was a real benefit to the boys?—Quite a benefit to them.

5935. Do you conform to the Brigade age—twelve to seventeen?—Well, they would be from about eleven up to fourteen, I think, the Boys' Brigade.

5936. Do you happen to remember whether you are enrolled on the strength of the Brigade, or was it a free-lance company?—Oh, a free-lance company.

5937. We do not know of your existence at headquarters?—Oh, no.

5938. *By the Chairman.*—Does the company still exist?—Well, they have not been in training for nearly a year.

5939. *By Mr Alston.*—You are not a Boys' Brigade company in that sense?—No.

5940. It would very much strengthen your hands if you were. Apparently you cannot get the young men to act as officers?—That is the difficulty.

5941. If you could, I believe it would be of great value to you?—Yes.

5942. Then it was really the military training of a few boys—that is practically what the company had?—That is just what they do, sir.

Military drill: parents interested.

5943. Is there any objection to military drill in the island of Arran?—Not so far as I am aware of; not in our district, which includes a good broad area.

5944. Not even in the remnant of the Free Church?—I do not think so; not so far as I am aware.

5945. And the parents of these boys, I suppose, had no objection to their being drilled?—Oh, none whatever; they seem to be quite pleased, and the parents often visit the hall; we have a fairish hall in Lamlash, and the parents often came to see the boys put through their drill; they seem to take quite an interest in it.

Swimming.

5946. You were asked by Sir Henry Craik about swimming; would it be possible in Lamlash, seeing you have these coastguardsmen on the spot, to get up swimming lessons; moor a raft in six feet of water off the pier?—Oh, I think it would be quite possible, sir; that might be taken in as one of the lessons they would receive.

5947. Part of the necessary training of a boy?—It is just requiring, perhaps, a little attention; I know that our late teacher, Mr M'Phail, took a great interest, and a number of the boys did join them, and he gave them lessons, and they got proficient swimmers, but some way or other we cannot get the interest of the boys so far as the swimming goes.

5948. Would they not take to pulling?—Oh, plenty of it; they are very fond of the boating, but very little bathing.

5949. Then is it a fact that all the steamer hands, the yacht hands, and the fishermen are all unable to swim?—The great majority of them, sir, so far as I know personally.

Music.

5950. *By Mr Fergusson.*—Do you have music with all your exercises?—Yes, sir.

5951. The whole of the physical training?—Well, with the exception of one of the schools; there are three of the schools they have really music.

5952. I see you call it the physical drill of an elementary character. Do you work on any particular system; any book?—At Lamlash and Corrie they do. Mr Davidson, the teacher from Lamlash, who is to come before this Commission, will be able to tell you, but Mr Davidson, of Lamlash School, and Mr Hay, of Corrie, work upon the same system. I understand it is Mr Allan that we mention here who teaches the Whiting Bay School and the Brodick School; the teacher in Whiting Bay School and the teacher at Brodick do not take the drill up. Mr Davidson does the teaching himself at the Lamlash School and Mr Hay at the Corrie School.

Careers boys: s employ in town in army navy.

5953. *By the Hon. Thomas Cochrane.*—Do not any Arran boys join the army and navy?—Very few; one or two in the navy I have known within these last three years.

5954. Since a training ship came up there, I think?—None have ever joined here.

5955. None have ever joined here?—No, none, so far as I know, from any part of the island.

5956. Where do they go to join the navy?—There were three taken away from Arran, and they joined through the coastguard officer at Lamlash.

5957. *By Sir Henry Craik.*—Taken away?—He took them. I think they were sent to the ship at Greenock, the guardship at Greenock; but it was Mr Austin who is the chief coastguard officer at Lamlash, and I know it was he who got all their papers prepared and took the boys up to the ship.

5958. *By the Hon. Thomas Cochrane.*—I should also like to ask you what other connection you have with the military forces—no militia company, I think?—No militia company.

5959. Do any of them join any of the other militias from Arran?—Not that I am aware of.

5960. Of Ayrshire?—No, sir, none of them.

5961. And Volunteers or Yeomanry?—No Volunteers.

5962. No Volunteers in Arran?—No Volunteers.

5963. Well, I am surprised; there is some splendid material there?—I have one boy myself that joined the army, and he has been out at the front all this time, since October; two-and-a-half years.

5964. Where is he now?—He is in the Second Mounted Infantry—my only son.

5966. *By Sir Henry Craik.*—Is he in the Yeomanry or the Army?—He is in the Second Battalion Mounted Infantry. He went out two years last October, and he still keeps well. He has been through a lot of hard work.

5967. If you preferred it for your own son, do you not think such a career would be a very good one for a good many others?—I do, sir.

5968. But they do not seem to turn to it?—They do not seem to take to it.

5969. *By Mr Shaw Stewart.*—At what age do the boys leave your district?—About fifteen.

5970. Do any of them go to sea?—Very few of them, very few of late years.

5971. Do you think if a mast and yards were provided in the schoolyard, and proper instruction given in the elementary handling of a ship, would that be taken advantage of?—I have no doubt it would. It would interest the boys for a time. I have no doubt of that, sir.

5972. And do you think if a shooting range were provided that would be taken any advantage of, a Morris tube range?—Well, I am afraid that the boys leave us before they are really at the age that they would take advantage of it. As a rule they generally go direct from the school, say, to the city.

5973. *By the Chairman.*—Do they ever come back again?—Very seldom, my lord.

5974. *By Mr Shaw Stewart.*—You have not got the problem of finding anything for the boys to do between fifteen and eighteen in your district?—No, sir. There is really nothing for them to do, and of necessity they have to go to town, and so many of them having left year after year, they have a great many friends in town and can get employment very readily, and can get good lodgings with those friends in the cities. The great bulk of them go to Glasgow.

The witness withdrew.

Mr A. P. Davidson, examined.

5975. *By the Chairman.*—You are the headmaster of Lamlash Public School?—Yes, my lord.

5976. And have been so for the period of twenty years?—For twenty years; yes.

5977. It is a small country school containing 120 pupils?—Yes.

5978. Perhaps you would kindly read your notes?—During that time I have watched carefully the beneficial effects of physical training on the physique, deportment, and manners of the pupils. For several years to begin with, little more than the preliminary stages (dressing, turnings, etc.) of military drill, with a few free gymnastic exercises, was attempted. About four years ago, however, when the pupils through their own exertions provided a piano and the apparatus necessary for carrying on their training effectively, a fresh impetus and interest were given to the whole thing. Now a regular course, suited to the different ages of the pupil and to the development of the different parts of the body, in free gymnastic, musical bar-bell, hoop, dumb-bell and Indian club exercises, obtains throughout the school. The want of a hall or shed for drilling purposes prevents the carrying out of our plan very well in the winter, but during the spring and summer months we drill in the open air. Two years ago I secured the loan of a few boys' rifles, and was struck with the enthusiasm and delight which the senior boys (ages fourteen to sixteen) manifested in the exercises. Improvising bayonets, they fixed them on the rifles, and to 'The Soldiers of the Queen' performed, after some training, the movements with wonderful precision. These exercises, I find, not only develop the muscle, improve the carriage, and enlarge the chest capacity of the children, but brighten their school life, and afford them a splendid training for meeting with and efficiently fulfilling the demands of the future on their energies.

5979. *By Sir Thomas Coats.*—Do you know anything of the Corrie, Brodick and Whiting Bay districts, or is it more Lamlash that you are acquainted with?—Well, it is more Lamlash. I was making a little inquiry as to the other districts, but I found that physical training was not carried out to any great extent there, simply because of the want of the apparatus necessary for the carrying of it out.

5980. Among the children who come to your school, more especially among the younger children, do you find many weakly children?—No, sir, I cannot say I do.

5981. Are they mostly robust looking?—Mostly robust and strong. I may say that in all my experience I would be right in saying that there have not been more than three deaths among the junior children of the school; those who have been in attendance at the school, I mean.

5982. But you are rather subject to epidemics, are you not?—Yes, on account of scarlet fever, whooping-cough and measles being brought down from the towns. And then, from the nature of the district, being a watering-place, we are inclined rather to shut the school than allow the disease to spread. That is largely the reason why I think we are so ready closing the school.

5983. Does that interfere much with the schooling; is the school frequently shut up on account of that?—Well, this last year it was closed for a period of over six weeks; however, it seemed not to interfere much with the general efficiency of the school.

5984. I think the people who let their houses are now provided with better summer houses than they had before?—Yes, they are now.

5985. They are living under better conditions?—Under better conditions, certainly.

Boys and girls.

5986. Do you have physical training throughout the schools amongst children of all ages, boys and girls?—Amongst children of all ages, from the infants upwards.

5987. You do not have many changes; the children that you get in as infants mostly remain in the school till fourteen?—Even to sixteen. One feature of our school is the senior class in it, which is really a sample class, considering, I mean, the size of the school—sometimes as many as twenty forming a senior class between thirteen and sixteen years of age.

5988. How long have you conducted systematic physical training in the school?—Well, I have done more or less at it since I was appointed. I was always fond of it, and carried it on with the free-arm exercises largely from my appointment, but of course the enthusiasm increased a little, and then we went in for apparatus.

Cruden's system.

5989. Was the exercise you carried out in accordance with any known system, that is, for the gradual development of the muscles of the body, chest and neck, arms and legs?—The book from which I took the system was largely Cruden's, of Aberdeen, which gives an organised system of work. I went on the lines of it. Previous to it I had a handbook—I do not remember the name of it—but largely of military drill.

Measurements of children.

5990. Have you noticed the marked development of the children while they are going through the school?—Well, I should say I had, because in their general appearance I find quite a difference. I took some notes as to measurements. I find that the measurements I took before coming away as to height and to chest expansion were considerably above the average of boys and girls of their age. Of course I had not taken any notes at the beginning, or previous to entering upon this system, but I calculated from the average over the country; I took the average of pupils over the country and compared them with the average of our children at certain ages, and I found in most cases that we were over the average, considerably over the average, as to height and as to chest development.

Time allotted: more would be beneficial.

5991. How many hours a week do you give in your school to physical training?—Well, strictly adhering to the time-table, we have only half an hour each time, that is half an hour a week, but I trespass, I daresay, a little on the time, simply because I was preparing for these exhibitions of which I spoke. We had in all five demonstrations, I think, which brought us somewhere about £60, and with that we provided the necessary apparatus.

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5992. Do you consider half an hour per week sufficient, or would you rather devote more time to it?—I should think, from the interest the pupils take in it, and the brightness and heartiness with which they go on with it, that an hour would not be misspent in it.

5993. And you consider that extra half hour would not be missed from the book knowledge?—Oh, I do not think so. I find really after a little break of that kind they work even more heartily at the ordinary book knowledge.

5994. I will put it in another way. Do you consider that the mental training of the children, or their book knowledge, would be better with an extra half hour of physical training during the week?—Yes, I should say so; their book knowledge would be better of an extra half hour's physical training.

5995. *By Sir Henry Craik.*—Have you had experience of other places besides Lamlash?—I was second master for two years in the Vale of Leven.

5996. And how would you compare the physique of the children there with that of the children of Lamlash?—I should say that the physique of the children of our village is very much better than in the Vale of Leven.

5997. You say they are a healthy set of boys?—Yes.

5998. But up to four years ago there was very little drill at all?—Very little, unless free-arm exercises. What I mean was, there was no proper systematised drill with apparatus.

5999. That is to say that the physical education of the children was very much left to take care of itself?—No, not quite; I would say that the free-arm exercises were given more largely, marching exercises were given more frequently, and the movements, the ordinary military movements, were given previously; but when we got apparatus, of course we had the same performed with the apparatus.

Improvements: costs.

6000. The pupils got the apparatus, including a piano, from their own exertions?—Yes, sir.

6001. But was there no piano in this school?—No; there was no piano in this school.

6002. Is not that nearly always a common part of school apparatus?—Well, I should say so; but in Arran our difficulty is in getting our Board to move in that direction, to supply a piano.

6003. Is the rate a very heavy one?—Yes, it is pretty heavy.

6004. What would be the whole cost of what you wish to have?—Oh, I do not suppose it would cost very much, especially just now, as they are talking of making some alterations on the shedding outside, a little additional building with a cheap covering would suit.

6005. Particularise a little; how much; name a sum—within £50?—Well, you know I am not a practical man in that way, but I should think less than £100 would do the whole thing, more especially if they are in the way of building anyhow.

6006. That would mean a charge of about £4 a year for thirty years, because, of course, they would get a loan for it?—Yes, sir.

6007. That is not a very heavy burden if it is to help materially the education of the children?—No, not heavy.

6008. It cannot really be a thing that stands in the way and prevents the School Board doing it, that they are to spend for the next thirty years £4 a year?—Well, other expenses they take into consideration, no doubt.

6009. Yes, but there is almost no part of the instruction which must not cost as much as that?—Well, I daresay not.

Marine apparatus desirable.

6010. *By Mr Shaw Stewart.*—Is there any tendency among your boys to go to sea?—Yes, slight.

6011. Would it be of an advantage to boys who thought of going to sea, and also to the discipline of your school, if there was a mast and yards and ratlines and so forth provided in the schoolyard, and instruction given perhaps by a qualified coastguardsman; would you be in favour of that?—I would not be in favour of anything that would tend to develop any feeling on the part of the parents in that respect. A coastguardsman savours of the navy.

6012. Would you be in favour of a mast and yard being set up in the schoolyard to teach school children in the elementary art of the use of ships?—Yes, of course; a great many of our pupils go to sea in after life, but not to the navy.

6013. I do not mean with an idea of recruiting for the navy, but to help lads to go on into the mercantile marine?—Yes; well that would be an advantage I should say.

6014. Then it would be of great assistance to those lads?—I should say it would.

6015. To get grounded at school?—Yes.

6016. And do you think it would have a good effect on their school work, also being brightened up and getting a change of work?—Yes; well, I should say it would introduce a little variety in the way of school life.

6017. It would be one form of physical exercise rather appropriate to a place like Lamlash?—Yes.

6018. *By Mr Fergusson.*—You said, I think, that most of the other schools in Arran did not have quite so much physical training as you?—That is my impression, sir.

6019. For want of apparatus?—Yes.

6020. What is this apparatus that you have beyond the piano?—Well, musical bells, bar-bells, hoops, Indian clubs and dumb-bells.

6021. Did that cost £60?—Oh! no, no, no; but it cost part of the £60. The piano, of course, cost over £20, and the apparatus cost somewhere about £6, and then I took ninety of the older pupils up to Glasgow Exhibition, which you know means practically a few pounds.

6022. You can do a good deal of physical training without apparatus; the expense of apparatus should not to prevent them doing a considerable amount of physical training, should it?—No; I should think they could manage well enough if the teachers have the inclination to go in heartily for it.

6023. But you are rather afraid of trying more than half an hour a week?—Oh, no, I should be very pleased.

6024. But why do you not?—We have been doing it, preparing for these exhibitions.

6025. Why not as an ordinary everyday work?—Well, it is only recently that we discovered that it could be done without interfering with other subjects on the time-table.

6026. Let me read you this from a school that looks at you from the other side of the water, where they do three hours for the boys and two hours for the girls: 'The other subjects of instruction do not suffer, 'but are benefited by the extra time devoted to the 'physical training.' You have not been bold enough to try as far as that?—No.

6027. Would you recommend it?—I should scarcely say that is in keeping with our ideas of work.

6028. *By the Chairman.*—You should scarcely say that is in keeping with your ideas of work?—Well, not to giving everything its due time.

6029. *By Sir Henry Craik.*—You do not think three hours out of thirty hours a week, one-tenth part, is more than a fair share for physical training?—I should think it is just rather much. My own personal opinion is that. It becomes tedious, and you might make what is really a delight a burden, and a thing somewhat undesirable. Three hours, I should say, a week, is a little too much. I should think two hours would be quite sufficient for all ends and purposes to make it a pleasure and a delight as well as educative.

6030. *By the Chairman.*—What is the object of physical training in schools, if I may ask you?—The object of it is to develop all parts of the pupil—body, intellect and will.

6031. It is not of such paramount importance as the mental part of course?—It is not of such paramount importance as the mental part.

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6032. Is it of paramount importance as assisting the mental part?—I should say it is; it helps the mental activities.

6033. But you think it should be administered in small doses?—Well, of course other things being equal, it might get more attention. If you allow other subjects which possibly are as important, and more important, to suffer, then it is just the question which you will accept, whether you are prepared to take the one or the other. If you can make more progress in some other branch of education than in physical training, then the question arises, is it your duty or is it not your duty to take it? It is a question in 'Profit and Loss.'

6034. You do not look upon physical training as a part of education, but merely as an aid to education?—As an aid to education. As education itself, a means to an end—namely, to make a man.

6035. Not a part of education?—Yes, I consider it a part of education, that part commonly called physical, which assists in fulfilling the great object of all education, namely, to develop the various faculties—Physical (body), Intellectual (cognition), and Practical (will).

6036. *By Professor Ogston.*—Have you the figures there on which you depend for the statement that physical education has brought your boys and girls above the average of the country?—Yes, I took a note of them.

6037. Would you just give us the most important one, the one on which you most rely?—I have the different ages. The average at nine years of age is, height 4 ft. 1 in.

6038. Of boys or girls?—Of boys, while our average is 4 ft. 2 in. The average at ten years of age is 4 ft. 3 in.; those I took were 4 ft. 5 in. Then at eleven years of age 4 ft. 4½ in. and 4 ft. 7 in.

6039. What do you mean by both 4 ft. 4½ in. and 4 ft. 7 in.?—4 ft. 4½ in. is the average throughout the country, and then the average that I took from our boys' measurements is 4 ft. 7 in. Then at twelve years of age 4 ft. 5¾ in., and our average is 4 ft. 8 in. Then at thirteen years of age, 4 ft. 7 in., and our average 4 ft. 8½ in.

6040. Did you take any weights?—I did not take any weights, sir.

6041. Did you make any observations regarding females?—No; it is only the boys that I took the measurements of.

6042. Do you know that the average stature of an inhabitant of Argyllshire is normally above that of the general population of the British Isles?—I was not aware of that. Did you say Argyllshire.

6043. Argyllshire, yes; it stands fourth in the list of nine separate values?—Yes, I was not aware of that.

6044. That might somewhat invalidate your figures, would it not, that you are measuring a population who are normally taller than the average?—Yes, but then, how does Argyllshire apply to Buteshire, sir?

6045. This includes Buteshire?—This includes Buteshire.

6046. I beg your pardon, it is my slip, it includes Buteshire, it is the same as Argyllshire in these statistics?—And are the statistics over those that I have given?

6047. Well, no; it has reference to the tallness of the population generally?—I was not aware; I simply took the facts as I found them in the school.

6048. Would you mind leaving me those figures so that I may test them as to their real value, as I am not certain that I have taken them down correctly?—I will give you a note of them.

6049. You have no other physical observations than those you have just given?—Well, unless chest measurements.

6050. We need not waste the time of the Commission; I can get those afterwards. Will you supply me with those to-morrow?—I will. There is one thing I might be allowed to say in regard to the Indian club exercise. We find it really perhaps does more good than any of the exercises we have had in the way of helping the pupils to use both hands. I did not mention it in my statement, simply because it is all included 'in the demands of the future.' In this exercise, making them not only dexterous but ambidexterous, we have a system or exercise introduced almost as educative and as useful as free-arm drawing in our schools.

6051. *By the Hon. Thomas Cochrane.*—Were those measurements taken with the bare feet?—Yes.

6052. In all cases?—Yes, allowance has been made for that.

The witness withdrew.

Adjourned.

TWELFTH DAY.

Thursday, 29th May 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr JAMES KERR, M.A., M.D., examined.

Mr J. Kerr, M.A., M.D.
29 May '02.

6054. *By Professor Ogston.*—Regarding your qualifications, are there any others which would add value to your evidence besides that of being M.A., M.D. of Cambridge, Medical Officer to the London School Board, and formerly medical superintendent to the Bradford School Board; it would be important that we should put in anything?—I have a diploma of Public Health of Cambridge, and I was formerly honorary surgeon to the Bradford Eye and Ear Hospital.

6055. And your experience extends through a

Mr J. Kerr, M.A., M.D.

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number of years?—Nine years I was medical superintendent to the Bradford School Board.

6056. And to the London School Board?—Two months.

6057. Then, of course, you have made a very profound study of the subjects regarding which your evidence deals?—I am afraid it has not been very profound, but it has been very general.

6058. Very general and careful?—Yes.

Physical conditions in earliest years: hindrances.

6059. May I ask you to read your evidence?—If the reference does not exclude the consideration of actual existing hindrances to good physical condition in the earliest years of active vegetative growth when future structures are being laid down, we may take these hindrances as roughly: *A*. Home influences.—(1) Maternal ignorance as to their own health before birth of child, working to the last moment, and so on; and also as to actual hygiene and feeding of the child. Most of the blindness now seen in schools the result of neglect of first week of life. Much neglect and even active opposition to treatment of unhealthy conditions of throat, nose, ears, eyes, and so on is made on the part of teachers and doctors too. Ignorance of infant feeding, producing rickets, anæmia, diarrhœa, and debility. (2) The effect of infectious disease in producing debility from toxic effects on developing cells of body is exceedingly important in towns. Whooping-cough and measles are endemic in large towns, outbreaks occur every other year, particularly in infant schools, and the majority of children suffer before five, probably one-third of the children in an infant school have measles before coming to school. Either disease causes more deaths than scarlatina, diphtheria, or smallpox all put together, and yet they are frequently neglected as trivial by parents. The sanitary effect of notification would be almost nil, but its educational effect might make it worth the cost. (3) There is the deprivation of natural methods of education which town life ensures; this we can consider with the school effect in this direction. *B*. School influences hindering physical development may be chiefly arranged as—(1) Absence of hygienic knowledge in teachers. Most teachers are exceedingly ignorant of hygiene, but there are exceptions to the rule, where teachers have almost a thirst for information, picking up every scrap wherever possible, and doing whatever they can for their children. This applies more particularly to the better class of infant teachers, who generally reach a higher pitch in the care of their pupils than most teachers, due probably to the spread of Froebel Societies, Child Study Associations, Teachers' Guilds, and similar influences. Women teachers generally are the most indifferent to health conditions, and many firmly oppose such measures as opening of schoolroom windows, for fear of catching colds, personal comfort, and other trivial conditions. School hygiene is a study of great educational value which could be usefully acquired by every teacher fit to be in a school if it was regularly required as a part of their training before a certificate was granted. Once started on it, the study presents so many points of practical interest that teachers spontaneously follow it up, and the effects soon show in school. Bad breathing, neglected catarrhal conditions, adenoids, open mouths, and resulting poor nutrition are a group now so well known as a cause of low vitality and mental inefficiency that they need only be mentioned. (Results of examination of school children—Bradford Tenth Triennial Report, 1900, pp. 136–139.) Standards of height and other measurements vary much with differing conditions. Age and sex distribution of any group of children has to be attended to, or statistics of particular qualities assessed, as, *e.g.*, hearing, vision, and so on may be almost valueless. Standards of chest girth are of doubtful value, for the care required to make the measurements, and the ease with which they are modified by slight training, *e.g.*, the question of whether a school stands on a hill or a plain, will, I believe, affect the results. Spirometry, too, with school children is very variable in result. Breathing exercises modify these results; they do not increase the capacity of the chest to fill with air, but they do speedily increase the capacity of emptying the chest. I have done some work on these lines, but gave it up as not giving results commensurate with the trouble taken. A physical census of school children might give valuable data, but the work could scarcely be done to be reliable. Here again I think the game is not worth the candle. What can be done, however, is the examination and measurement of various groups carefully and thoroughly, to give data for study; a census is hardly necessary, as it is unlikely to give results equal to detailed study of small but sufficient numbers, say not less than a thousand in each group. The question of medical inspection should have been thought of thirty years ago; hundreds of thousands of pounds in furniture and buildings alone would have been saved. All schools should have regular medical inspection, the teachers confer with the school doctor regarding many parts of their work, and his influence in modifying school tasks and conditions through this means is most valuable. He should have had a considerable and extended experience of treatment in general medicine, and with children; he should also have had an actual acquaintance with ophthalmic, aural, and nervous disease, and have had sufficient scientific training to deal in a simple and practical way with any hygienic problem that may crop up. Wherever a school doctor has been appointed with more than nominal duties, he has been well appreciated. Bradford was the first place, in 1893, to arrange for a regular medical oversight of every branch of school work, and the Board there has since doubled and trebled the original salary of its medical superintendent. The School Board for London has appreciated the importance of medical oversight and reorganised its medical department on a more comprehensive basis this year. The comparison of town and country children is very difficult, as it depends on many factors, of which physical exercise is only one; possibly nutrition and the wages of the parents are the most important factors. School influences are practically similar; the foulest atmosphere I was ever in in a schoolroom was at midday in an infant room almost on the slopes of Snowdon. Having been in the fresh air before going into the school it may have affected me more strongly, but it certainly was the foulest one to smell that I was ever in. With regard to such a quality as vision, my own testing of several thousands (sufficient to eliminate statistical error), analysed as regards age, sex, and standards, showed a difference between town schools and suburban schools in the city of Bradford. Vision reaches its best average value in the town schools at ages eleven to twelve, but the same acuteness is reached by suburban school children at ages eight to nine. On the other hand, in inspecting schools in small country towns and villages, one found that very local conditions, such as small, narrow streets and dark schoolrooms in a country town of a few thousand inhabitants, seemed to have a retarding effect on the development of visual acuity. That was particularly marked in Otley and Keighley, and the vision of the children was exceedingly bad there. The town child seems sharper in what one may term sensory reflexes; he can use phrases of which mayhap he has little idea of the meaning, in a pert way; he is more precocious in a certain variety of sensory experiences than the country child; but I doubt whether this applies to other qualities; it does not to vision, may not to hearing, certainly does not to vegetative qualities or organic functions such as growth, capacity to resist colds, nor probably to endurance of adverse conditions, resistance to disease, or to continuous change of circumstances. On these points, however, one is only judging from impressions, and not from actual records. *Physical Exercises.*—As regards physical exercises, they may be divided according to two different purposes—(1) Those designed to promote nutritional change by stimulating circulation of blood and lymph, and developing respiratory (air) exchange. (2) Those which are purely educational and designed to develop neuro-muscular mechanisms to perfection. All

Home influences.

School influences.

Teachers: school hygiene.

Measurements: standards.

exercises when first performed are educational. The key to considering anything regarding education of children is its action in regard to the process of development of the nervous system. The brain is the chief organ to be considered in nervous development. Its action may be regarded as built up of a large number of separate but much interrelated mechanisms, each of which has two aspects. There is the receptive mechanism (or sensory part), which may or may not put into action the forwarding or executing mechanism (the motor part). The earliest functions in the history of the species are the earliest developed in the history of the individual. —Mere vegetative functions, breathing and so forth, are first, the perception of lights and sounds, the capacity of twisting the body, of swallowing and sucking, which are congenital. Inheritance from a remote ancestry ensures early and rapid attainment of these capabilities without training, provided actual destructive disease does not intervene. Education cannot directly modify such functions. Next in order of development appear somewhat higher functions, as the distinguishing of colours, recognition of different sounds, speech and capacity of holding the body upright, of walking and gradual assumption of human characteristics; these are later, but develop by natural education; control of the coarsest muscles of the limbs and coarse sensory appreciations are the attainments of the child coming to school. Some can hardly walk; they must all be taught to stand to or to walk along a straight line. Most cannot talk except imperfectly; many only learn this with much trouble; a few remain imperfect. The control of the fine finger muscles is only attained after the child leaves the infant department. They cannot do any complicated movements. The order of development is entirely from the general to the special, from coarse muscles to fine muscles, from simple movements to the most complicated and elaborate movements, and premature working of the nervous mechanisms of such implies rapid nervous exhaustion. On the other hand, occasional working of the developing parts by short, rapid and violent action does not unduly exhaust, and at the same time stimulates function. I need not trace this out, but it suggests, as work for infant schools, avoidance of all continuous fine work of hand and eye, breaking up lessons as much as possible, as early fatigue is the great characteristic of developing nervous mechanism. Much special work done in infant schools, and habits of holding work near eyes resulting, conduces as much to overstrain and bad school habits as anything else. For organic nutritional purposes, as well as for the best educative results, we want the simplest and the coarsest muscular movements, not involving fatigue, and as actual experiment demonstrates the reinforcement of even involuntary reactions by other nervous stimuli as sound, all infants' work of a rhythmic nature, as marching, where mere circulatory effects are to be got, should, if lasting more than a few seconds, be accompanied by musical rhythm to save nerve fatigue; for effect on young children especially to develop reserve powers (chest capacity, heart muscle, and also for educational value) there should be thrown into the ordinary work every now and then, for exceedingly short intervals of not more than ten or twenty seconds, the most violent efforts of which the child is capable. Games, but not half-hearted games, games with moderate exercise, involving now and then a few seconds of the most violent racing to catch each other, struggling to get free, and so forth, are of the utmost value to young children; otherwise they do not develop reserve capacities, and are in the condition of a warship without powers of forced draughts, unequal to emergencies. The Poor Law School is where the children under the Poor Law are taken in and housed and everything is done for them. There are large institutions in London of that kind with hundreds of children in them. The Board School is the school where the children go from their own homes under the Board to be educated, go there every day to be educated and come away again. The children who live in the Poor Law Schools are protected in every way; they get practically no exercise; they are always in a warm atmosphere; they gain no power to accommodate themselves to varying conditions, as it were, and other children get this natural education, and have these reserve powers to a great extent. The result is, Poor Law children in winter get chilblains if they go out in the cold, whereas the other children can go out and not be attacked. If measles broke out among the Poor Law children it caused a large mortality. I am judging that more from French statistics, where in some of the Paris schools the mortality has been enormous from measles, but in the ordinary population the mortality from measles is something like two to five per cent. In the case of infection of the eyes there is a contagious disease of the eyelids, an ophthalmia which has been a tremendous curse in London among all the Poor Law Schools nearly, but in the Board Schools one sees very little of it. You can hardly consider it contagious; the one child reacts to it, the other does not. The Board School children do not have the disease amongst them, but the poor law children do, from their lowered vitality, as it were. The extreme examples of this want is in the institution-reared Poor Law children, who look sleek and healthy, and yet are so tender that they do not react healthily to cold, but get chilblains. Contagious disease, as measles, cause excessive mortality among them; or infection of the eyes spreads all over a school, when in the ordinary Board School it is trivial.

Musical drill advocated.

In the older children the drill can be increased in complexity to some extent, but for mechanical or vegetative effects it should be as automatic as possible, aided by music to prevent tiring and fatigue. It should be frequently repeated for short intervals, not more than ten minutes, and should again have one or two violent efforts of short duration thrown in.

Boys and girls up to and after twelve: differences of training.

Town school children, as a rule, are in poor physical condition, girls worse (from less exercise in their games) than boys. Up till about twelve they need not be considered as differing in their requirements for exercise. After about twelve and on towards puberty a new set of conditions and nutritive pressure begins. The control of all the muscles and senses is fully developed, but now co-ordination and complexity of grouping, elaboration in an intellectual and muscular sense, is going on, and ends in the gracefulness of the young woman, and full-grown litheness of the man, replacing the gawkiness of the hobbledehoy. At such a period of growth too much heavy work may do harm; the heart often is behindhand in its growth at about sixteen, especially in boys, and this has to be watched; it is unequal to the demands on it, and may get irregular in action or even strained; smoking at this age, from its action on the heart, is probably deleterious. The cases I have seen have been generally boys who smoked. Transition period, ten to fourteen, increasing the proportion of nerve work gradually by a well co-ordinated scheme, but still simple (quick) work, which easily becomes automatic. The proper drill from, say, twelve is not automatic, music-accompanied work, but the slower, more uninteresting, and more exhausting, from the complicated muscle grouping required, Swedish style of drill; such work is necessarily exhausting, and should not be applied to ordinary school children, in whom it would amount to fatigue; its place is distinctly in the higher grade school and the pupil teacher centres. I have been contrasting the work of infants with the work of the older children, but I do not mean that the infants should only have the one kind and the older children have only the other, but that there should be a transition period, as it were, from ten to fourteen, and a regular scheme which is passed on from the mere automatic work that you get in the infants' until you get into the fully developed co-ordinated, what is called the Swedish movements of the older ones. One has to accentuate these points to bring them out strongly.

Pupil teachers: importance of physical training.

Pupil teachers are in a very poor condition physically—defective chest capacity, bad strained voice production, awkwardness and gawkiness; an absence of ideas of deportment are apparent in appearing before a committee, or even in sitting down on a chair. They are generally anæmic and flabby, getting palpitation and breathlessness on the slightest exertion above the usual. I tested a con-

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siderable number at Bradford by sitting them quietly on a chair, then at the word of command making them start a race to the bottom of several flights of stairs and back—64 six-inch steps—taking on an average 59 seconds, and then keeping them on a chair and taking the pulse at intervals. None had returned to the normal within the half-hour that I could spare each. Boys, girls, and a team of boys who had been specially trained for six weeks for a tug-of-war competition, were tested by racing them from a chair round a playground and back to the chair, averaging 17 seconds in running. Half a minute after stopping this mild exercise the average acceleration of pulse was in the girls 30 per cent., in the boys 19 per cent., and in the special boys who had had six weeks' physical extra work 10 per cent. In two and a half minutes it was—girls 11 per cent., boys 7 per cent., trained boys normal; and four and a half minutes after, girls 9 per cent., boys 3 per. cent., trained boys normal, showing that girls, probably from want of exercise in games, are worse physically than boys, and that six weeks' regular practice makes much difference in the capacity of lungs and heart to respond to an emergency. There may be an error in that the team of tug-of-war boys would probably be better physically, boys selected on that account apart from their training. Life is made up of the functioning of healthy or unhealthy cells. The care of the body implies everything else. To emphasise the importance of physical condition, its value should be taught as a religious duty, especially to pupil teachers. There should be a set of simple exercises, not more than a dozen, which they should be taught to repeat daily in private, quite apart from school, to maintain and develop body muscles, expand the chest, and brace up the muscles of the shoulder girdle, all of which the average pupil teacher neglects. Deportment and physical culture have a most important educational effect on their pupils, and should be assessed in any pupil teachers' reports or examinations of as great value as, say, a knowledge of French or shorthand. Unless some such means is adopted pupil teachers will not attempt the moderate amount of work which they are quite capable of doing effectively out of school time. In the work to be distinguished under various headings, swimming is best for young children, the movements taught on dry land or in school for short periods frequently, then the bath till they can swim. Once they can swim it ceases to be of educational use, but still will have bracing and tonic effects on the general circulatory system. Walking I personally regard as very poor exercise. Running is hard work, if too continuous might cause death from poisoning by fatigue products accumulating, such has been known in paper chases. Marching is good, especially for infants. I want children to do a minute or two marching round the schoolroom every hour of the school day simply as a nutritive stimulating action. Games are good, furnishing the infrequent but exceedingly valuable very high pressure work temporarily, and also involving intellectual work which mere drill does not. Intermittently violent games the best. There is also considerable intellectual effort in good games. Gymnastics, military drill, boxing, self-defence, and shooting are educational to those of fourteen and over, and might be insisted on in continuation work, although to make such things compulsory often makes them resisted as objectionable. With regard to various diseases enumerated, exercises which promote general health and tone of body tend to prevent eye diseases, and the bone diseases associated with tuberculosis. Causes Making for Tuberculosis in Schools.—I wrote a short paper in *Tuberculosis*, Summer, 1901. I concluded it was to a great extent prepared for by want of exercise and of bad ventilation of the school. Ear disease is the result of neglected colds or catarrh, or infectious disease in infancy. Sinus disease is one of the ordinary terminations of ear disease, and it may be added that suppurative ear disease is not yet appreciated in its full significance, as of the cases returned by the Registrar-General as dying in England from otitis there are 70 per cent. under the age of fifteen. Dr M'Ewan, of Glasgow, says that to have a suppurative ear is about as serious as to carry a dynamite cartridge about in your pocket, and I think that is a good estimate of its risks. Heart troubles from overwork in rapidly growing boys (chiefly) we have spoken of. Other heart troubles exercise would in rare cases cause damage, breathlessness is the warning there. The seriousness of heart diseases in children, from what I have seen myself, tends rather to be exaggerated by doctors, in regard to school work. Rupture and other accidents occasionally happen in gymnasium or football, which last is good game for boys, bad for heavy men. First aid for apparently drowned can be taught to any children who learn to swim. Two quite young swimming boy scholars in Standard III., I think, at Wapping Road School, at Bradford, about a year ago saved life by artificial breathing methods in an apparently drowned child. The method of putting out fire by a rug can also be applied effectively by a child of eight or nine. I remember a successful case where a little girl acted effectively by school-taught methods. Physical training in English schools, as a rule, has one hour a week, or rather sixty minutes, as about the scheduled time given. There should be thirty minutes daily allowed for breaks of a few minutes and change. Such a lesson as writing should never be continuously allowed without at least three breaks per hour of as many minutes each for some arm movements. I would cut out much sewing to get that time in. I do not know what to take out for the boys. One hour a week in two formal lessons, drill or extension movements, must be added for instruction and practice. Including swimming I would give 180 minutes weekly to physical exercises. Then I go on to some ideas of my own. The Hooligan as a product of the Education Act.—Education in the past has aimed in school at mostly stimulating the sensory side of the nervous system. Children have been lectured to and filled with facts. Eye and ear instructed until the corresponding nervous centres must be well developed. Practice in reading, writing, and arithmetic until it has reached almost reflex perfection, but the higher mental and intellectual faculties have never been fully exercised. There has been a minimum of reasoning and thinking which involve effort. Trouble and effort has been eliminated by having everything analysed and explained, till children leave school with their faculties for learning undeveloped, and the lower qualities of merely hearing, seeing, and feeling without thinking almost perfected. The motor side of their development has also been neglected, and its full attainments never attempted, so that even the level of their organic functions remains low. At the usual period of growth the dormant nerve centres may try to assert themselves, as in the violence of the hobbledehoy Hooligan, but they settle down to a life of a sensory nature, which is of little use to others or to the State. Instead of the young man delighting in 'something accomplished, 'something done,' or attacking doubts and difficulties for the sake of reasoning them out himself, he wants without the bore of mental fatigue to have sensory enjoyment, to watch a football match, and suck at a pipe, to appreciate a variety entertainment, to enjoy the excitement of gambling, but not to make an effort to think or reason. He has to fill up spare time by meaningless, almost reflex, reading of tit-bits and such stuff, and loathes all physical exertion. The obvious treatment for this tendency is that schools should provide not so much knowledge of facts, but capacity for using the highest parts of the brains in thinking, reasoning, learning, and doing for oneself, in self-education under guidance. This is the chief duty in the second half of school life. Plenty of physical work, at least three hours weekly, with a raising of its prestige by marks or prizes, not for individual excellence as much as for general school or class excellence; this continued after school life into the most complicated games, drills, gymnastics, and all the arts of self-defence as the training of men and older boys. The children I have seen most of are the offspring of people who are

Swimming.

Walking and running.

Marching.

Games.

Gymnastics, military drill, &c.: objection to compulsion.

Tuberculosis: causes.

Various diseases in children.

scarcely regarded as human beings, they are simply hands in the manufacturing centres, at least I think so. Therein Scotland differs much from England, for every Scotch boy has in him a pride of race and the memory of Bannockburn. The chief duty of school is to turn out pupils, to whom the feeling of citizenship is the greatest gift their country can offer. They should go into every action of life inspired with the creed of the State schools, that 'England this day expects that 'every man will do his duty.'

6060. Your *précis* of intended evidence is so very full and clear that I would only put some explanatory questions regarding certain points of it. Beginning as before at the words 'If the reference,' and taking up 'home influences,' you say, shortly, underneath No. 1 that most of the blindness now seen in schools is the result of the neglect in the first week of life?—Yes.

6061. Would you mind explaining?—Well, I am judging from blind classes; in England we have a Blind and Deaf Act. Any child who is too blind or too deaf for ordinary education has to be provided for separately in a blind or a deaf school, and in the blind schools most of the cases of blindness that one sees are the result of *opthalmia neonatorum*, that is inflammation of the eyes from contagion from the mother at birth, if that is neglected at the first week of life, as it very frequently is—I have seen very frequent cases where a doctor has not been in attendance and the midwife has neglected it, or the parents and nurses have neglected it—in the course of a week or ten days so much damage is done that the child is left blind.

6062. So that clause refers to total blindness or very serious blindness, but not to errors of refraction and minor?—No, not at all to these; these, I think, are enormously exaggerated in school; my note refers to total blindness, to children in blind schools.

6063. Then take the next clause, those conditions of the throat, nose and ears that you refer to are subjects of comparatively recent recognition?—The last twenty-five years.

6064. But you regard them as of very great importance?—Very considerable importance in town children.

6065. And their importance is such that they would require almost the presence of a skilled medical man for their adequate recognition?—The trouble of these things is that when they are recognised, and when the parents are apprised of them, they object to have anything done; in the majority of cases it is with the greatest difficulty that you can bring these conditions home to the parents. In Bradford I knew the children in the schools, and I saw them afterwards in the hospital, and it was a matter of operating on hundreds in a year for those conditions.

6066. And that statement almost necessarily implies that the recognition of them ordinarily is unusual?—No, the recognition of them is fairly easy in bad conditions; I mean the teacher recognises a child with an open mouth, besides, the child snores.

6067. You think that teachers should be taught to recognise open-mouth breathers and adenoids?—I think so; the bad ones, at any rate.

6068. Could you tell me in a word what percentage of defective eyesight you consider usual in schools that you have had charge of?—It depends on what you mean by defective eyesight.

6069. Including every form of it?—Children who have not the normal visual acuity?

6070. Who have not the normal visual acuity either from refraction or other defects?—It depends on the age of the child.

6071. Would you say overhead 50 per cent. suffer from defective vision?—In children of seven, 50 per cent. will have normal visual acuity; in boys of ten to fifteen, 10 per cent. will be the outside number who have not.

6072. And regarding throat and nose and ear diseases, what percentage would you think of school children are ordinarily affected with them?—That is an exceedingly difficult question to answer, because it depends upon so many things—on the social conditions, on the amount of looking after; it also depends on the time of year you examine them, whether it is cold or not.

6073. Could you give us any guidance—5 or 10 per cent. or higher?—I should think 5 per cent. at least have their hearing injured by it. In Chicago they have been working a great deal on these things, and they say 30 per cent. have their hearing defective. In all school work you have to allow for the personal equation of the child, and I do not think they have done that sufficiently in America. I think 5 per cent. is about the number.

6074. We just want working numbers?—Five per cent. is about the number—between five and ten.

Notification of diseases.

6075. Take the next clause marked with the figure 2. You speak at the end of it of the sanitary effect of Notification. Will you explain to us what you mean by Notification there?—Well, certain infectious diseases under Acts of Parliament are made notifiable. If a case of disease occurs, the doctor who sees it, as the case may be, is compelled to notify it at once to the medical officer of health, and the exposure of people affected by these diseases is against the law. They can be prosecuted for it.

6076. And whooping-cough and measles are not notifiable diseases?—They are not generally notifiable diseases. In some places they have been made temporarily notifiable diseases, but generally they are not notifiable, and there are great difficulties in the way of making them notifiable.

6077. But the medical officers of health often do include them in their list of notifiable diseases?—In some places they do. They did at Edinburgh for some time; they have at Newcastle.

6078. They have found no opposition, but rather help, from the medical profession?—No, but generally the sanitary authority drops it, as they think the cost is too much. But, on the other hand, if these were made notifiable diseases, parents would become aware of the risks, and they would prevent them spreading as they do.

6079. There are some points of explanation under 'B.' The number 1 there makes the statement that most teachers are exceedingly ignorant of hygiene?—Yes, I think so from my experience of teachers.

Teachers: hygiene.

6080. And how would you remedy that?—I think that it is becoming almost a necessity that all school teachers ought to have a knowledge of hygiene, that it ought to be insisted upon before they get their certificates. That is the thing that is most wanted of all. Now, in most schools the hygienic knowledge on the part of the teachers is very limited.

6081. And in the next sentence you say that women teachers generally are the most indifferent to health conditions, and many firmly oppose ventilation?—Yes.

Ventilation: necessity varies.

6082. I suppose you recognise that there are various climates that require ventilation to be carried out in different ways?—Yes.

6083. That in a wild district in the Hebrides the necessity for open windows would vary from what it would be in a perfectly built school in the Metropolis?—Well, probably in the Hebrides it would be very much worse than in the Metropolis. I mean they would keep the windows so well shut, would they not?

6084. But of course the risks of cold, of wet sea fogs?—Oh, yes, I am quite aware of that.

6085. And also the ricketiness of the buildings allowing of ventilation otherwise; all that has to be considered in considering the ventilation; it requires a good deal of judgment to apply?—Yes. In America, where they have tried to legislate for every place, they issued some years ago a book about the ventilation of schools in which they tried to arrange for what one may call the 'mechanical ventilation' of every room, however small; some arrangement with stoves up to the most complicated system of appliances; I do not think you can ventilate any schoolroom without some means of ventilation quite apart from doors and windows; I think nearly every school requires ventila-

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Measurements: standards.

tion quite apart from door and window method, either by stoves or by some other appliances.

6086. Now pass on next to the standards of height and other measurements; do you consider those of very great value if properly collected?—Oh, if properly collected these might be made useful, I think.

6087. But it would require a medical man of special skill and knowledge of the subject to collect them so as to be really valuable?—Yes, and it would require a medical man who had special interest in the subject too, because it is a most tedious and uninteresting work to begin collecting these things.

Physical census by medical superintendents and teachers.

6088. Pass on next to the physical census; that I suppose could scarcely be done by the ordinary parish doctor?—The ordinary medical man has not paid very much attention to this kind of work. There is nothing in the work itself which he could not acquire in a comparatively short time, and I think almost any qualified man who turned to it could give you good results after a time; a little experience is necessary.

6089. Could it be done by the teachers?—The teachers would require special training, and I think probably that the ultimate method of doing all this kind of work will have to be through trained teachers, the cost of medical men being too large. Medical superintendents and a certain number of teachers; either the schools grouped for a teacher to take so many, but teachers with special training, especially in regard to such things as testing eyesight, and so on. I hardly think it wants a medical man, but it does want special training of individual teachers probably.

6090. And in that way you think it could be adequately done, and done at a reasonable expense, and would be worth doing?—I believe they are doing it in that way at present in Chicago, but I cannot give you details of it.

Medical officer and staff.

6091. Passing on next to the clause regarding the medical officer of Bradford; what is the salary at present of the medical superintendent of the School Board?—In 1893 I was appointed at a salary of £100; that was raised to £250, in 1896 I think it was, and it was raised to £350 about eighteen months afterwards.

6092. Have you a staff of medical men under you in the London School Board?—In London there are ten occulists and two assistants who have to do with defective and feeble-minded children—blind.

6093. Are any of these consultants, or are they all your subordinates?—These are all subordinate to the medical officer; they give half their time, all of them.

6094. Passing on in your notes you analyse the statistics regarding age and sex concerning vision in Bradford?—Yes.

Town and country schools.

6095. Did you find the schools in the town or the suburban schools the better?—At the earlier ages the suburban schools were the best.

6096. You think, therefore, that in arranging a town school, its halls, its windows, its playgrounds, its vicinity, they should aim as far as possible at the type of the country school?—Oh, no; I think the acuteness is due to extra causes out of school.

6097. Quite so; they have to look at more distant objects?—That is so.

6098. Therefore that ought to be considered, that the child's eye should not be confined to resting merely upon a neat point?—I have not developed that point here at all.

6099. But you agree with it?—I agree with it thoroughly, and towards the bottom of the next column, I speak of infant schools. I think that is one of the most important school problems—the work done there—the eye work of infant schools; I think it is excessive.

6100. You speak of adverse conditions in the second clause promoting or hindering resistance to disease?—Yes.

Physical training: value.

6101. You consider that physical training would reduce the vulnerability of children to ordinary diseases?—I think that it would; I do not know that it would to the infectious diseases, but I think that it would to the results of them.

6102. It would render them less prone to take colds, tuberculosis?—Distinctly as regards tuberculosis; oh, yes, diminish the chances of that, and in regard to a condition like measles, a child who has adenoids has a great chance of having suppurative disease of the ear follow that, and if it has not adenoids it gets through measles fairly well as a rule, or scarlatina and various other catarrhal diseases.

6103. In the paragraph headed 'Physical Exercises,' about five or six clauses down, you come to an important point about the functions. 'The earliest functions 'in the history of the species and the earliest develop-'ments in the history of the individual'?—Yes.

6104. I suppose from that and the neighbouring clauses you regard a child as being like a prehistoric man with slightly developed limbs and faculties?—To some extent.

6105. And has to be guided by the teacher through the same education that nature submitted man to in his development to the present condition?—Yes; I think so to some extent.

6106. And that physical training and mental training to some extent must follow the lines that nature has marked out in raising man?—Yes.

6107. That is the idea that runs through this?—That is an important guide in education, I think.

6108. At the foot of that page comes another very important point which we have met with for the first time, the question of violent action in physical exercise. I see that you systematically approve and make a strong point of the value of violent action occasionally?—Yes; I think so.

6109. You think it necessary for the well-being of the child that it should be submitted now and then to some form of training which shall develop its reserve power?—Yes, that is the point; that is where I think that games excel ordinary drill and ordinary work, in that a child there spontaneously exercises itself to its very utmost for a period that it can stand, and also that it uses its intellect to a certain extent.

6110. We may take it that that point, which is a very important and unusual one, is the result of much thought, much consideration on your part, and that you abide by it as a very important thing?—I think so; it is my own idea entirely.

6111. To such an extent that if a system of physical training were suggested to you which excluded altogether violent effort, you would condemn it on that account as imperfect?—If a system of physical training for infants, say, which excluded running altogether, running two or three—well for 40 or 50 seconds at top speed—a system which did not include some running like that I should think would be defective.

6112. And that in your estimation is one of the main values of games such as football?—I think so; I think the two points in games are the occasional violent work and the intellectual part of it—that the child uses its choice, as it were.

6113. Another point in your evidence that we would wish your opinion very distinctly upon is the question of music. I notice that you conclude that exercises ought to be accompanied with musical rhythm to save nerve fatigue?—In the young children?

6114. In the young children?—That is rather a difficult point, for this reason, that it is a question there of balancing up whether the teaching of young children without music is better ultimately. It certainly saves nerve fatigue in the young child, and the only question is whether the teachers can get as good results if they do their drill without music entirely in the young children. The teachers object in London at any rate to drill with music.

6115. But your opinion as a scientific expert on this subject is distinctly, that in younger children the rhythmical influence of music is of great benefit?—I think so.

6116. Pass on now to where you talk of schemes and Swedish style of drill. You consider, I suppose, that some regular scheme is desirable?—I think so.

6117. And practicable?—Yes, I think so.

6118. I suppose you think it should be adaptable to

all the varying circumstances of town and country weather and so on?—I do not know very much about the practical application of drill. Of course I have seen it and I have judged it, but I do not know that I could draw up a scheme myself for it. If someone else drew up a scheme, I daresay I could criticise it, but by Swedish style of drill I mean those slow movements which are exhausting.

6119. And you disapprove of the Swedish style of drill if it is too exclusive?—If it is too exclusive, I disapprove of it. I think it is all right for the older people, after twelve say, but for Swedish drill exclusively all through school life, I think it is bad.

6120. You think it is bad for children under twelve?—Yes, exclusively. I think you want smart drill for children.

6121. And an ideal drill, therefore, would take consideration of that fact?—Yes, I think so.

6122. But you also think that an ideal drill should have certain adaptability about it?—Yes, it must have. I think drill is like religion; there are different styles, and each professor says his is the best, and they all have good in them.

6123. Now concerning pupil teachers; you think, I suppose, that a medical officer could be of very great value to them in regard to those defective points that you have indicated; defective chest capacity?—Yes, I may say that the teachers themselves, they are chiefly girls, of course, object to the medical man very strongly.

6124. They do?—They do, and they object to any one talking to them about their physical condition, either men or women.

6125. Do you not find that they come and consult you regarding themselves, having a kind of confidence in you?—No. Of course in Bradford there were no exercises insisted on till recently. They now have a good system there too, but until recently they had none, and it was their obvious defects that called my attention to them, and caused me to make those enquiries that I have mentioned.

6126. Are those defects in the teachers such as could be recognised by an ordinary school inspector, or would they require the presence of a medical officer?—A school inspector would know that they were of poor physique and so on, but it would require some skilled training to make a proper estimate.

6127. Somewhat higher skill than that of an ordinary school inspector?—Yes, it wants medical knowledge to do it.

6128. Did you find a large proportion of them defective in Bradford amongst those you tested?—Well, I should say that at least two-thirds of them require a considerable amount of physical training, at least two-thirds.

6129. And could you give us any short indication of what the exercises would be that you would advise, and which would be adequate to maintain and develop the muscles and chest in school teachers?—I think, roughly speaking, the exercises such as are down here in the higher grade girls' school in London would be excellent for pupil teachers.

6130. Which may be practised in their own rooms?—Then I think some of these could be selected; I mean any teacher of this work could draw out about a dozen exercises and teach them. There are all sorts of systems for practising at home, but they could have some simple exercises drawn up, about a dozen for that purpose. The important thing is to make them realise the value of it; they do not do that, and their teachers do not either.

6131. Passing on, under the heading of games, you also lay weight upon the value of games as involving intellectual work?—Yes.

6132. And on that account also you would include them in your curriculum of physical exercises?—Yes; I think games are of great advantage to the children.

6133. Passing on, there are one or two phrases that I should like if you could make more clear to us. In the fourth paragraph you speak of the Hooligan as a product of the Education Act. At the end of that paragraph you say: 'The motor 'side of their development has also been neglected, 'and its full attainments never attempted, so that 'even the level of their organic functions remains 'low.' Could you elaborate that thought?—Well, the thing which I speak about before the reserve capacities of very many town-bred people are exceedingly poor. Now in London I see very many of the teachers that come up as candidates, and they are flat-chested, poor individuals, and if you put your finger on them you see there is poor circulation, it remains pale where you press, ever so long. Their general functions, as it were, their general vitality is poor because they have never been developed.

6134. And if they attended more to exercises developing the motor system, you think it would improve such things as digestion and circulation?—I am quite sure of it.

6135. A little further down you speak of the capacity for using the highest parts of the brains in schools?—Yes.

Proper function of education.

6136. Now how would you suggest that schools should provide for using the highest parts of the brains in thinking, reasoning, learning and doing for one's self?—The teachers have not yet got out of the way of having everything that they teach their children analysed down to the very lowest work; everything is done by rule nearly, and by imitation, and by copy, instead of the children having to think it out for themselves. Of course, the tendency nowadays in the higher grade schools is to make the children do everything for themselves; they make their own apparatus, they reason it out, and that is intellectual work, but the ordinary school curriculum seems to cut out as much intellectual work as possible, and appeal almost entirely to the hand and eye and ear. Hand and eye and ear training which is thought so much of for younger children, I think is positively bad in the older children, because there it is excluding what I call the higher intellectual centres.

Saturday holiday necessary for children.

6137. As a medical expert, do you think that the Saturday holiday is a necessity?—Yes, I think so for children.

6138. And that in it neither physical nor mental training should be enforced?—I think that all children want a clear day to themselves.

6139. Can you give us any suggestion regarding the management of physical training in cripples?—No, I have not thought of that point at all.

6140. Or incurables?—I have not thought of those points at all, but I must think of them.

Infants: ages: special education.

6141. *By Sir Henry Craik.*—When you speak of infants, what age do you mark by that?—Well, in England we have children at school very much earlier than is the rule in Scotland; they begin at three. The attendance is compulsory from five, but it is very general in the towns from three, and there is a difficulty in Yorkshire towns at any rate in keeping them out until they are three. Then the rule varies under different boards as to when they leave the infant school. In London they allow them to stay until their seventh birthday. In Bradford they turn them out as soon as possible after their sixth birthday. It varies, the practice in different schools, but you may call all children under seven infants, roughly speaking.

6142. The special sort of education that you would give the infants you mean should be extended to children up to about seven?—Of course, that is for school purposes; I would even make it a little later if I were drawing up a fresh scheme.

6143. Well, that is rather what I would like to know, because that would be useful for us. How late would you carry on special instruction suitable for infants?—You see in Scotland you have children coming to school later than in England, and you probably translate your infants a year older than the English ones, so that I should call it seven to eight.

6144. And the special type of physical instruction that you refer to as suitable for infants is for children up to about eight years of age?—Yes, the sort of rule that I speak to teachers about, the way I make that

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clear to them, is this, I say the brain increases in weight till about the age of nine, and from that age there is practically no increase in weight, but it is an increase in elaboration, so that up till seven or even nine you must allow the child's brain to grow, and after that you can elaborate it as much as you like.

6145. Then it is up to about nine, is it?—I think if you put it eight to nine, you are putting it too late; I should say up to eight at the outside.

Physical instruction in London schools.

6146. Have you inspected and examined the system of physical instruction in the London schools?—Yes, I have seen something of it, and, speaking generally, it is a good one.

6147. But do you think that it tends too much to this sort of what you call slower, more uninteresting and more exhausting style of drill?—There are difficulties with different teachers. I have seen it where I considered it thoroughly bad, and I have seen it also as an excellent work. It depends, I think, partly on the teachers. I have seen the slow movements done in an infant school where the children were yawning in a few minutes. Slow movements, of course, should never be done by infants. On the other hand, where it is done quickly, as it is done in most of the schools, it is a good exercise. They call it Swedish drill in London, but I do not think it is Swedish drill. You can call it an eclectic system based on the Swedish, but the slow movements for the younger children are distinctly bad on account of the nerve exhaustion, and also because the music is left out of most of them.

Skipping.

6148. Is the skipping-rope used much?—It is not used as it ought to be for the younger children. It cannot be where a teacher has to manage seventy children.

6149. But it seems little used in the playgrounds; less even than it used to be?—It is a most excellent thing for the younger children.

6150. And it is used in the French army, is it not, for boys even?—Yes, I think skipping-rope exercise is one of the very best exercises. It fulfils the condition of having intermittent violent work.

Board and higher school children: comparison: social condition.

6151. Have you had any opportunity of comparing the pupils in the Board Schools with the pupils in higher schools?—In Bradford I did a little of that. The result was that the pupils in the higher schools were somewhat better physically than the pupils in the ordinary Board Schools, and, of course, the pupils in the poorer districts were worse still; it is simply a matter there of social condition, I think.

6152. And the feeding?—Well, that, of course, is part of the social condition, better parents and better feeding.

6153.—But also better opportunities for exercise?—And better opportunities, yes; and better education out of school.

Blind children: physical training.

6154. *By Mr Alston.*—In your answers to Professor Ogston you have cleared up what was a little obscure. Your reference to blindness in school did not refer to defective vision, but to absolutely blind children?—Yes.

6155. Then it is also the case, is it not, that blindness from birth is due to ignorance and neglect?—The blindness which is due to birth, which is a diminishing quantity, I think, is due to neglect in the first week of life, and want of cleanliness.

6156. Do you know that it is the case that some authority in Liverpool issued a circular for the guidance of working-class parents in that particular?—That circular, I think, originated in Bradford, with the late Dr Edwin Bronner, and it has been used and is used in many parts of the country yet.

6157. Do you think it has produced a good effect?—I think so.

6158. Is it not the case that blindness from birth is generally found to be associated with very low and unwholesome physical conditions?—Yes; well, the whole thing, of course, goes together—dirt.

6159. Is it the case, from your knowledge of the blind, that the blind are particularly liable to sexual emotions and sexual indulgence?—That is a difficult question; that is, of course, more with the grown-up people, and I have not had much to do with them. Both blind and deaf are very prone to that kind of thing.

6160. And that particularly points to the necessity for institutions to prevent that kind of thing?—That is one of the great things against deaf institutions as deaf institutions—the troubles of that sort.

6161. Then is it not also the case that the blind generally marry the blind?—I have found that happen. I have records in my book regarding both blind and deaf, and even in the case of the blind I have found their children blind.

6162. Under our remit I think we are entitled to consider the condition of the children both in the Board School blind classes and in the Blind Asylums?—Well, I do not know much about the asylums, in fact I know nothing about them, and it is on the Board School classes I have had to deal with.

6163. There you advocate a full course of physical instruction for blind children?—In the case of blind children you cannot have too much physical instruction to give them self-confidence. The first blind school I went into in London I thought things were wrong. I spoke to the teacher about a boy there who was walking about the room in a very bad way. A blind child can go about almost like a normal one if properly trained.

6164. In view of the probable marriage of blind persons, it is desirable that blind children should have the benefit of physical instruction when in school?—Yes.

6165. That would tend to the improvement of the race?—Yes.

6166. And the children of the blind are not necessarily blind?—Oh, no.

Poorh... children... physi... exerci... desira...

6167. Would you say the same in relation to the Poorhouse children. You have spoken of them as living under exceedingly depressing conditions, and that they do not get a fair chance of child life?—They do not. They will now; in many parts of the country they are boarding them out in little homes.

6168. Would you approve of that?—Oh, thoroughly; they then approximate to the general population; that is all right.

6169. In their case also would you approve of physical exercises?—Yes.

6170. Under proper supervision?—All children want physical exercise.

6171. Apparently. In the case of Blind Asylums I know the blind children do get it, but I do not know that it is so in the Poorhouse, but it would be very desirable?—It is desirable.

Ambu... instru...

6172. Would you advocate full ambulance instruction for boys over fourteen?—Oh, yes, I think so; that is almost necessary nowadays.

6173. Have you ever seen ambulance classes of boys?—I have taught them.

6174. Did you find the results good?—Excellent.

6175. More than one would expect?—Those were lads, of course, that I taught many years ago.

6176. Fourteen to seventeen?—Yes, fourteen to twenty, and I got excellent results with them.

Ages ... childr... exerci... differe...

6177. *By Mr M'Crae.*—There is one point where you speak of the Swedish style of drill as being exhausting, and then you go on to say that it 'should 'not be applied to ordinary school children, in whom 'it would amount to fatigue; its place is distinctly 'in the higher grade school.' Do you by that infer that the physical capacity of children of the same age in those schools are different, or is it that the higher grade school child is of a greater age?—No, it is the age. If I may put it this way—the younger the child the more easily exhausted it is; and in the older children they are coming to the period of development where they can stand it with advantage; the young child gets tired out with it.

Physic... educat... sugges...

6178. In your statement of evidence you apparently approve of physical education which would give a few minutes' exercise at different periods of the day rather than one half hour per day?—What I mean here is, that you want to get two purposes by your

physical education; you want a few breaks of a few minutes in the course of every school lesson simply for the nutrition and stimulating purposes, and then you want your hour in two formal lessons for the educational value as well.

6179. Do you think the one hour a week in two formal lessons, and then other short periods, would be better than half an hour per day all through the week?—Well, twenty minutes twice a day would not be too much, I think, but you could not afford it on account of other things.

6180. Then you say that physical exercise should be continued after school life; have you had any experience at all of evening continuation schools?—No, I have had no actual experience of it, but I think it would be beneficial myself.

6181. Then what is your idea in saying that it ought to be continued after school life; how would you propose that this ought to be done; by any system laid down, or do you just put it in as a recommendation that boys and girls after they leave school should have exercises?—Well, they leave school between thirteen and fourteen most of them, and they still want exercise on to seventeen and eighteen, especially the complicated exercises and the exercises in which they have to use their brains.

6182. Yes, but have you any scheme in your mind as to how that should be done?—No; I have no scheme about that; it would have to be some evening continuation schools or something of that kind, but I have no definite scheme to recommend.

6183. *By Mr Fergusson.*—We were told by a medical witness that he did not consider there was very much use for physical training for country children, because they had a certain distance, perhaps on an average two miles, to walk to school, and he thought that was sufficient; do you agree with that?—No, I do not agree with that. I think that country children probably want physical training to a considerable extent in addition to their natural training which they get. Of course they do not want it as much as town children.

6184. But merely walking along a road will not make up for what you mean by physical training?—No, I do not think so; they do not need it as much as the town children, but still they need it, especially the older children.

6185. You said you were against children being given any work on Saturday because you thought they must have a clear day, but Sunday is a clear day, is it not?—Yes; but still I think that the child gets great benefit, both what one may call socially and otherwise, from having a day which it can devote to itself for play and what not.

6186. Supposing you were on Saturday morning to bring children together from a number of schools and give them a couple of hours or three hours of some sort of drill or games, or so on, would you object to that?—Would you give them a half-holiday in the middle of the week to make up for it? I mean I do not like the idea of their having five and a half days of school; my own feeling is strongly that a clear day is of great advantage to a child.

6187. We were told that the children were 'out 'of a job,' and they did not appreciate their Saturday holiday, for they had nothing to do; they loafed about, and they would be very pleased to have something found for them. You would not approve of that?—I would not like to ask children to go to school on Saturday.

6188. I am afraid I am not quite so ignorant of the poor law children as the Chairman suggested, but what you said is rather a strong indictment against poor law schools?—Yes, it is.

6189. I think we have the advantage there in Scotland, because, as far as my knowledge goes, the boarding-out system prevails all over the country?—Well, you do not know of the huge barrack schools that we have.

6190. You approve of music for physical exercises?—For young children, yes.

6191. From the teachers' point of view we have been told that they prefer to teach the exercises without music, and give music after the children have learned them?—Yes; well, there is something in that, but that is the detail of teaching, as it were, which I do not know so much about. Looking at it merely from the physical condition, I would prefer music for all the rhythmic work of the infants.

6192. Do I understand that you do not approve of the Swedish system?—Well, the Swedish system, what is usually understood, means very slow movements, into which the mind is put.

6193. The Swedish system is what is taught in the girls' schools under the London School Board?—I should say not; it is based on the Swedish system. That system is a good one.

6194. Do you prefer the system taught to the boys—the Chesterton system?—There is not very much difference between the two systems.

6195. You think they are both good?—They are both good. I mean in the infant schools under the London Board I think that might be modified somewhat, more especially in the direction of using music; that of course is matter of opinion.

Infants' education.

6196. Did you mean to imply when you were talking of the infants that you thought they had too many lessons, is there over-pressure in the infant department?—No; I would have to go into that in some detail. The kind of work that is done in infant schools generally involves very considerable nerve pressure on the child; I mean a child that is set to work with a pencil or a pen has to use its fingers and its finger muscles at a period when it is unfit to do it. You cannot get children to hold their pen properly in an infant school. The task is too great for them. They hold it that way (*showing*), and then again when they are taught to read or when they are taught to write they bring their eyes—the infant's eye is shorter than a normal person's—and it would require a great effort of what is called accommodation to see clearly, they have to sacrifice that and bring the thing close up to their eyes. They see in a very blurred way and very broadly; if they are set to do any work they tend to do it about four inches from the eyes.

6197. Still you must teach them to write?—You can teach them with chalks on blackboards. You can eliminate a pen and pencil from every infants' school, and it has been done in every infant school that I know of, and you ought also to eliminate needles and thread from them.

6198. You wish to change the system of teaching?—In the infants' school needles and thread and pens and pencils should be abolished.

6199. *By the Chairman.*—And slates?—Well, chalks on boards are the most economical things. Slates, of course, go with the pencils.

6200. *By Sir Henry Craik.*—Have you seen the free-arm drawing in practice, and do you think that is a very good thing?—It is a good thing in infant schools.

6201. *By Sir Thomas Coats.*—In talking about statistics of chest measurement, you say that it is difficult to get them because there are several things which influence these measurements. You also say at the beginning of that paragraph: 'Breathing exercises 'modify these results, they do not increase the capacity 'of the chest to fill with air, but they do speedily increase 'the capacity of emptying the chest'?—Yes.

Singing exercises.

6202. You know the exercises, I suppose, that singers go through for the purpose of being able to continue the breath?—Yes.

6203. And also have you heard of it in the case of stammering children and young people, quickly inhaling to the full extent and then gradually letting the air out, and continuing that for some time?—That is to get a control of the breathing as it is called.

6204. Do you not think that strengthens the chest and develops the chest?—It will do to some extent. It develops the power of emptying the chest. If you take the chest measurements of children who are trained in similar ways, and one group gets breathing exercises and the other does not, you do not find any

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difference in the development of the two groups; they both develop at the same rate, that is when the chest is full, but you do find a difference in the amount that they can expire in those who have had the breathing exercises.

6205. Would not that naturally strengthen the chest?—Oh, I think so.

6206. Or strengthen the lungs?—Oh, I think it does; it strengthens the control and it increases the respiratory exchange as it is called.

Breathing exercises: not of great importance.

6207. Would you advocate exercises of that kind?—I think there ought to be some little breathing exercises; but to attach any great importance to breathing exercise as part of school work I should not do it.

6208. You would not do it?—No great importance, but I think there ought to be some simple breathing exercises just put into the other exercises to be used occasionally.

6209. You have great experience of children who work in factories in Bradford?—Yes.

Continuation classes: physical training desirable: compulsion disapproved.

6210. Is it your opinion that these children after they leave school, and having done a full day's work of ten hours in the factories, could beneficially attend evening classes both for physical drill and continuation classes?—A lot of these children do have other work in Bradford, large numbers. I do not know about the physical drill, but the work in the factory is not very heavy work; the work they do is very monotonous work, and they rather need physical work at other times, I would say.

6211. But would you advocate compulsory evening classes?—No; I do not think I would, that is a different matter, compulsion.

Sewing and cooking distinguished.

6212. You say that you would give up a certain amount of sewing for physical drill. Is that because you think sewing is bad for the eyesight, or do you consider that the amount of instruction in sewing learned in schools is so little as to be of comparatively little value afterwards?—I do not think that sewing is of very much use afterwards, and I do not think it has very much educational value. I think that the sewing that is learned in school in the last years of school life is not of very much educational value, and I think the time might be utilised in a much more advantageous way.

6213. Then would you apply the same idea to cooking in schools?—No; cooking is useful; they are using their brains there; cooking is a thing that has educational value.

6214. Do you think they can get such a comparatively large knowledge of cooking while they are in the Board Schools as to be of advantage afterwards?—I do not know about the amount of knowledge that they get, but I think the educational value of making them reason out things is very useful; the actual results in knowledge as a technical subject may not be large.

Hygiene: useful subject for continuation classes.

6215. Then you talk of the absolute ignorance of the parents with regard to hygiene that is in many cases?—Yes, the objectionable ignorance one might almost call it, the harmful ignorance to the children.

6216. If there is no time to teach hygiene and domestic economy, say, during the time devoted to the ordinary work in the Board Schools, would you not advocate that being taught in continuation classes?—Yes.

6217. Would you not make it compulsory?—But a good deal of the school work can be modified to be used for teaching that as well. The greatest improvement would be in teaching hygiene to the teachers first, and then if the teachers get to know that, they will modify their school work to be hygienic.

6218. Do you think that probably there might be enough time found in the time-table to give instruction in this?—Oh, it is for the teachers, I think, to work it in. At present they will be teaching a child the history of a lump of coal when they might be teaching him something of more use.

6219. Then you do not think it would be absolutely necessary to teach them this in the evening, to have evening classes for domestic economy and hygiene?—It would be useful. I do not say it would be absolutely necessary.

6220. Then with regard to boys. I think you said you would not make evening continuation classes compulsory for the teaching of physical exercises and other subjects?—I am afraid my ideas would be rather revolutionary on that point. I should like to take the boys at the age of fourteen and put them to something for twelve months' hard labour, as it were. I think it would do them good, but I am afraid it would be worse than vaccination on the public.

6221. Just one other question. You talked about the value of shooting; where would the shooting come in?—I do not think I mentioned shooting. Oh, yes, military drill, boxing, self-defence, and shooting. It is accurate work shooting, and teaches them a great many things. I think they would pick up a great many things in that, and they take an interest in it. Shooting I mention because I think there is something to be attained there, and aiming after some ideal standard always increases the efficiency of the work.

6222. With safety ranges, I suppose, Morris tubes?—Yes.

6223. *By Mr Ferguson.*—Might I ask one question about tuberculosis. You have turned your attention specially to tuberculosis in children, have you not?—I have considered it chiefly in relation to children.

6224. That refers only to tuberculosis of the lungs?—Yes.

6225. Is it not a fact that the dust caused by the use of chalks gets into the lungs and predisposes to tuberculosis?—It predisposes.

6226. Because it is an irritant, is that the reason?—Anything that depresses the health generally.

6227. One of the great objections to the use of chalk in schools is the enormous amount of dust. That is the complaint we hear against free-arm drawing, and you have been advocating chalk. Is there any possibility of that being harmful to the lungs of the children?—Well, the dust which causes harm to the chest is dust which is insoluble, as a rule, coal dust for instance, stone dust; but chalk is soluble, and it may cause their mouths to feel dry if there is too much of it, but if it is properly used in school there will not be too much. Teachers at first when they began free-arm drawing in schools complained very much of that, but as they gained experience and learned to use small dusters and things of that kind that almost vanishes.

6228. But if they use them wrongly, and there is a great deal of dust, is there any chance of that causing tuberculosis?—I do not think that it would make any appreciable difference in regard to tuberculosis.

6229. *By Professor Oyston.*—Is it the duty of the medical officer to the School Board of Bradford, and in London, to examine all intending teachers in regard to their health?—Yes. They are all examined. In Bradford they are not examined as they are in London. In Bradford we simply fill up the Form 42 of the Education Department, which is a very poor thing indeed.

6230. They examine both pupil teachers and other teachers, men and women?—Yes. All candidates for employment under the London Board are examined. The women are examined by a lady doctor, and the men are examined by myself.

6231. And a pretty rigid examination?—Yes.

6232. Do you think it is important that all intending teachers should be examined by a School Board medical officer?—I think that all intending teachers should come up to a certain standard both as regards height and other things, vision and hearing.

6233. Would you be satisfied with the report of an ordinary general practitioner regarding their health?—Well, the reports of the ordinary general practitioner as a rule are very scanty in relation to many subjects, and they are generally his own patients, and he has to stretch a point in their favour if anything.

6234. All these papers here that you hand in refer, I suppose, to the examination of all intending teachers, both pupil teachers and others?—Yes; all these are the

Education Department's forms which they require for every pupil teacher to be filled up twice in the course of their training, but it is very slight.

6235. Does it form a large part of your work; does it take up a large share of your time?—I think there are about 1400 a year filled up in London, but chiefly by the woman doctor who examines the females.

Mr J. Kerr, M.A., M.D.
29 May '02.

The witness withdrew.

Mr John A. Sutor, M.A., F.E.I.S., examined.

Mr J. A. Sutor, M.A., F.E.I.S.

6236. *By the Chairman.*—You are headmaster of Fraserburgh Public School, in the County of Aberdeen?—Yes, my lord.

6237. You have been teaching since 1862; you are sixty years of age, and you have been in your present place for thirty-one years?—That is so, my lord.

6238. The number on the school roll last year was 1124?—Yes, my lord.

6239. You have always taken a special interest in the out-door games and the exercises of the pupils, and you had military drill taught for several years in the early 'seventies,' but it was discontinued on account of the want of encouragement and pressure of other things?—That is so, my lord.

6240. Until it was revived in 1895, when the Education Department, for the first time, encouraged physical training in schools by adding the following Article 19 (b) to the Code: 'The higher grant (1s. 6d. 'for discipline) will not be recommended unless drill, 'or some form of physical exercise approved by the 'Inspector, be included in the curriculum.' Again in 1899, Article 19a (4), provides that 'The scheme of 'work for all divisions of the school shall make 'provision for adequate physical exercise, according 'to an approved system. In the senior division this 'exercise may take the form of military drill'; and again in 1900, Article 19b (2) of the Code says that the normal Block Grant shall not be increased 'unless the 'arrangements for physical exercise or military drill 'are satisfactory.'

6241. Since the Code of 1895 came in force, physical drill accompanied by music has been systematically taught in your school by your school staff, who hold certificates of competency from the Aberdeen Physical Training College?—Yes, my lord.

6242. Is that Col. Cruden's?—Col. Cruden's; we are not all certificated at the present moment, but at that date we became certificated. When the 1895 Code came out I instituted a class on my own responsibility for training my own staff and training those teachers in the district who might care to attend the class, and the result was that they all became certificated, and four of us took the highest form of certificate, called the diploma, issued by the training college.

6243. The time devoted to this subject is half an hour a week to each class, and in your opinion that is far too little?—Far too little, my lord.

6244. Then you go on to say the teaching of physical drill has not interfered with the advancement of the pupil, but, on the contrary, has brightened them up, improved their physique, and instilled into them habits of prompt and regular obedience, and it is looked forward to with pleasure. It would be attended to with still better results if it could be given more frequently?—That is so, my lord.

6245. The teaching of this subject has been discouraged in both evening continuation schools and continuation classes by the offer of smaller grants for it than for other subjects, and in your opinion this should not be?—That is so, my lord; and I would add a little more, that the grant for physical training in a continuation school is not paid to any pupil unless he takes a class in one of the other divisions. A grant for that subject alone is not paid unless the pupil who takes the physical training takes in addition another class in one of the other divisions.

6246. Then you say, no pupil should be allowed to leave school without a junior leaving physical certificate?—That is a suggestion, my lord.

6247. It should be punishable for a man to engage as an apprentice a lad who is not possessed of such a certificate. Every young man in this country should be compelled to have in his possession by the time he is seventeen years of age a Senior Leaving Physical Certificate, that is to say you wish a certificate given, both while a boy or a girl?—Both while a boy or a girl

6248. Or a girl is at school—an ordinary elementary school—and further that you wish every young man to have a Senior Leaving Certificate?—A Senior Leaving Certificate.

6249. Does that apply to girls too?—No, my lord.

6250. With a proper syllabus of work for each of these leaving certificates—with suitable accommodation and apparatus—and with competent instructors, every young man in the country would in this way receive such a thorough physical training as would fit him for taking up arms for his country in a much shorter time, and with much greater efficiency, than he can under present arrangements. Would you explain that a little?—I mean, my lord, that if this were done, no young man could escape receiving such a training as would better fit him for his work in life, whatever that might be, and in the case of those who ultimately became volunteers, not much additional training would be requisite to enable him to bear arms.

6251. That he would be physically fit, and he would have good lungs, and be able to run, and possibly to shoot; you include all that?—I include everything.

6252. And you consider the mania for football, and the administration of justice by our present police courts are prejudicial and detrimental to the welfare of our youth and of our country?— Football: police courts.

6253. By mania for football do you mean the playing of football, or the looking on at football?—The playing of football and the looking on at football matches both.

5254. Because I mean one is exercise and the other is not; I want to know your opinion about it?—My opinion is that these scenes are attended with an immense deal of coarse swearing, and rough work, and coarse language.

6255. You have no objection to the actual physical exercise; the actual playing of football?—Oh, no, my lord.

6256. It is to the looking on that you object; to the people who are loafing about, looking, doing nothing?—The coarse swearing and the scenes that take place at the matches that are held all over the country—scenes of drunkenness and dissipation are injurious to players and onlookers.

6257. And what about the administration of justice by our present police courts?—I mean simply by that that the young men are not looked after after they leave school. They pretty much do what they like, my lord. I will give you a case in point; I was walking along a street in the town in which I live a few months ago, and a lot of lads of about fifteen, sixteen, or seventeen were playing football in the street, and one of them came running up against myself, knocked me into a door and pumped me out. I spoke to him about it. 'You have no right to be 'playing here,' and his whole attitude was that I should not have been in the way. I went into a shop and took the merchant out as a witness, took down their names, went to the police court and charged them; they pleaded guilty, with the result that they were sent away with an admonition. Next day they were all at the same thing; I saw them. That is quite a common occurrence.

6258. Was that a bailie court?—A bailie court, my lord.

Mr J. A. Sutor, M.A., F.E.I.S.

29 May '02.

Continuation Classes.

6259. *By Mr Alston.*—You spoke of continuation classes, and one of your difficulties was that you could not get in physical drill which you desired so much to encourage because they had to choose another subject along with that, and there are many who would take only physical exercise or military drill in a continuation class?—I think often there would be a large number.

6260. And they are obliged to take another subject in order to get the grant from the Department?—Yes, sir.

Military drill.

6261. You yourself have, apparently, no doubt as to the value of military drill; do you find many objections to it in your neighbourhood?—Long ago in the 'seventies'—perhaps you will kindly allow me to read this answer: 'Witness has always endeavoured to give 'what time and attention he could to the subject of 'physical training—long before the Department inserted 'it in the Code as a subject of instruction—as far back 'as the early "seventies." The training took the form 'of military drill.' I employed a volunteer sergeant in connection with the Artillery Local Volunteers, and I got 100 wooden guns made, and the local man was employed as instructor, and capital work of its kind was done; I have never seen better. It was a matter of public comment that the drill of the children was infinitely superior to that of the local companies of Volunteers; but in this case the instructor was an exceptionally good and suitable man. I do not know that ever we had a man in Fraserburgh—we have two such men—that would have been so successful as this man was; he was an exceptionally good man, polite with the children, able to keep order and not rough, as many of these men unfortunately are.

6262. That was the first instance of introducing military drill amongst the boys, and it was quite successful?—Quite successful.

6263. Then you have all along been in favour of it. Then as to the feeling of the parents of these boys or of the general public in the neighbourhood of Fraserburgh?—I have heard a talk on the part of some parents that they did not want their boys taught to be soldiers; but I do not think it prevails to any very great extent. I think it would be cordially adopted.

6264. Then you think military drill could be introduced in the continuation classes, and that it would have sufficient interest in itself to bring the boys without making the continuation classes attendance compulsory?—I think so, sir.

Physical training: hindrances.

6265. *By Professor Ogston.*—You have found that the bad weather and want of training sheds and halls have not prevented you carrying out the physical training well?—Oh, yes, sir. I have found these things have been serious obstacles. You see we have only half an hour given in our time-table to physical drill, half an hour a week to each class, and there were two difficulties in the way of our having more; in the first place we had no place to take them to; we had no drill hall. I have such a thing now, because, as Sir Henry Craik knows, our infants have been removed to an infants' school, and the old infants' room is now at our disposal, and we can at any time now take a class there for the purpose of physical drill, but before this year that was an impossibility.

Halls.

6266. Could you suggest any really practical remedy for the inclemency of the weather in such spots as schools around Fraserburgh—and in the Buchan district?—I would suggest that a hall should be had in every place for the training of boys and girls in the elementary school, for the training of them after they leave school, and also for the training of the local volunteers.

6267. Is not the expense prohibitive?—I do not know, sir; I am not aware, sir.

6268. *By Mr Fergusson.*—In fact, you would like co-operation in halls; you would like all who have need for a hall to unite?—One hall for all purposes.

6269. One hall for all purposes; volunteers and others?—Yes, sir.

Time.

6270. You think half an hour is too little; but how much time would you like to devote to physical training?—I think it ought to be done daily.

6271. For how long?—Or three times a week.

6272. For how long?—Well, it should not be very much less than half an hour.

6273. Every day?—There are preliminaries; you have to take the class to the hall and to take it back again, that means a little time, and you need a little time to get under way, to get a beginning, to get all the apparatus ready, and so on.

6274. But could you spare that time from your other subjects?—No, sir, not as things are at the present moment.

6275. Why not?—We have so many subjects under the Code.

6276. Not so many compulsory subjects?—They are all compulsory. You have sewing and singing and drawing; drawing is, perhaps—for the moment I cannot remember if drawing is compulsory, but I think so, yes, and then you have nature knowledge, and so on.

6277. We know all these things, but we have been told by some who have tried it that they can give three hours a week to physical training, and the other subjects do not suffer; you have never liked to try?—I do not think; I am persuaded that cannot be done.

6278. Then you have not much faith in physical training, because the reason given is that physical training makes all the other work so much easier, and your children are brightened up, and it makes them do their other work in less time?—Quite so; that is quite true should you have time; you have not time.

6279. Well, you have not tried, in fact?—No, there is not time.

6280. *By Mr Shaw Stewart.*—Do many boys go to the sea from your neighbourhood?—A good few, sir.

Mari appa

6281. Do you think that a mast and other appliances of a ship erected in the playground would be of any value as a part of physical training for the boys?—It would be an advantage and would do good, of course provided there was a qualified instructor at hand.

6282. To teach them the elements of the use?—There are several exercises, such as rope-pulling up hand over hand, that are highly beneficial. A good deal of the physical training now practised, some of it at least, is spectacular; but exercises connected with boats would be very beneficial, no doubt about it. Those fishermen, for instance, on our coast are powerful men; you never see a fisherman bowed or slouching; you may find him lying flat on his back, with both shoulders touching the ground—or touching the deck—but you will never find him slouching; we have full-chested men as the result of over-hand pulling and such-like exercises.

6283. And if a boy intended to take to the sea, his early attention a few minutes every day in the playground might be of use to him in after life?—No doubt of it, sir.

6284. With reference to your notes, in which you state that a physical certificate should be required from every boy or girl leaving school, that is the first time we have had this suggested by a witness. Could you just amplify your statement as to that; how would you carry it out?—I would have an examination on certain things, and make the boy go through an examination on this subject just the same as he does on any other subject.

Speci instr

6285. Who would examine him—a teacher or a special instructor?—A special instructor. Teachers, as a rule, I think, should be entirely relieved, except in the junior classes of this kind of work. A very large number of our teachers, sir, are ladies. My experience is rather that they are not competent to teach physical drill to children who are over nine or ten years, or thereby.

6286. You would like to have a special instructor for the older children?—Yes.

6287. And how would you get that special instructor to work in with the teacher?—He would be there all day long, taking class after class during the day.

6288. There would be no friction, do you think,

between the instructor and the teacher?—Oh, none whatever.

6289. One question in regard to your last paragraph, in which you speak of the drunkenness and dissipation which can often be seen at football matches, and so forth. Do you think if a lad had gone through a good system of physical training he would be less liable to fall into drunken habits as he grew up?—He would not have the same opportunity; it would be an attraction away from the public-house in the evenings; that is what I mean.

6290. Quite so; and if physical training were extended in schools—if a boy began early to learn physical exercises—do you think that would have a beneficial effect upon him in after life?—I have no doubt of it; he would be disposed to continue it, because it is a subject that boys and lads are fond of.

6291. *By Sir Thomas Coats.*—How long do your children or young men remain at school?—Till about fourteen in the elementary school.

6292. Not beyond fourteen?—Well, some might be beyond fourteen, but not many.

6293. You do not have them going on to sixteen, seventeen, or beyond that?—Not in an elementary school; they would be in an advanced department.

6294. You have evening classes, have you not, in Fraserburgh?—Yes, sir. This is the first year of the continuation classes, and I thought our class was to be a great failure, because they are failures to a very considerable extent over the country; but it was the very opposite, we had a very capital class.

6295. Are these classes encouraged by the fact of your giving physical training in the evening?—They would be encouraged.

6296. Is physical training given in the evening in the continuation class?—No, sir.

6297. Not at all?—Not at all; those who would take physical training object to take the other classes necessary to fulfil the conditions requisite to enable us to obtain grants.

6298. But do you not think that it is a good thing to oblige them, or to tempt them I would rather say, by giving them physical drill, and, perhaps, applied gymnastics in the evening, to encourage them to take other classes as well; they cannot be thoroughly educated at fourteen?—No, they are not thoroughly educated, many of them. They are far from it, sir. There is a large number who will come back to other classes.

6299. But could you not induce them by encouragement of that kind, say, if you went in for a gymnasium, that would be a great inducement, would it not?—Yes, it would be an inducement, but still I do not think they would do it.

6300. They would come for the gymnastics but not for the other classes?—Yes, that is so.

Games: playground.

6301. *By the Hon. Thomas Cochrane.*—As the result of your rather painful experience of the football in the streets, I should like to ask you whether there is any opportunity for football—any playground for the boys?—Large links on which anybody can play—a large common open to the public.

6302. They have plenty of room to play games?—Oh, ample room; very few places have such room as we have.

6303. They are very fond of physical exercises—the boys?—Oh, very fond of it.

6304. And you would rather encourage it in a legitimate way than allow it on the streets?—Yes, but policemen complain that in present circumstances they are powerless.

6305. You mention that your own early efforts failed for want of encouragement?—I had so much else to do; there was so much else to do in the school that I could not spare time and do my other work.

6306. That was in the days before the School Board?—Before School Boards, and also in the early 'seventies.'

The witness withdrew.

Mr David M. J. James, examined.

6307. *By the Chairman.*—You are the headmaster of the Huntly Public School, Aberdeenshire?—Yes.

6308. How long have you been so?—I have been so for twelve years.

6309. Where were you before that?—At Forres.

6310. You call Huntly Public School a town school, or do you call it a country school?—It is intermediate.

6311. Therefore you may be considered a representative of both town and country?—A little, yes. Might I explain: it is one of three schools in Aberdeenshire which are recognised as centres for secondary instruction in Aberdeenshire.

6312. Would you kindly read your preliminary note?—Physical training in this school has been hitherto most seriously handicapped by the want of a gymnasium or other room affording sufficient floor space. It has been necessary to use the infant room (when disengaged) for the physical drill of most of the classes, and the accommodation there is insufficient in extent, as well as objectionable in other respects. In summer some of the drill is done outside, but the want of the regulating and enlivening influence of musical accompaniment is much felt.

6313. You proceed to recapitulate the nature of the physical drill done, which, I presume, is from your time-table?—Yes.

6314. Taking that altogether, how much is done per week per pupil?—Well, on an average just half an hour.

6315. Half an hour per week?—Yes.

6316. Is that because you proposed that in your time-table, or was that time assigned to you by the inspector or other authority?—No, I may say it was my own doing, as being all I thought we could afford under the circumstances, but I have always thought it perfectly inadequate, and I have always regretted it very much, and I may note that this want of a gymnasium is at present being repaired—a gymnasium is to be erected.

6317. Under what authority is the gymnasium to be erected?—By the School Board.

6318. And entirely paid for out of the rates?—Yes.

6319. May I ask what rates, the rates of the Huntly what?—The rates levied by the Huntly School Board.

6320. What is the Huntly School Board; is it simply the Huntly parish?—The Huntly parish, yes.

6321. And Huntly parish includes what?—Oh, a radius of a mile or two round about the town.

6322. What is the population?—Huntly town is slightly over 4000, and the parish comes to somewhere about 4700—the whole population.

6323. Do you happen to know what a penny rate brings in?—The rating is 5d. per £1 at present; I am not sure what sum it brings in.

6324. I did not know whether you happened to know each additional penny brings in so much?—Yes, I am not quite sure.

Teachers: ordinary staff

6325. You say that drill is taught by the ordinary teachers of the respective classes?—Yes.

6326. For a few months a specially qualified instructor was employed, but the results were on the whole less satisfactory than with the ordinary teachers. Not having the same 'grip' of the pupils, he did not seem to get the same work out of them?—That is the experience we had; of course, it was a short experience.

Inspection.

6327. Then who examines the pupils in physical exercise?—The ordinary inspector.

6328. What did he say the last time he examined them?—When he has remarked on the subject he has always expressed himself as well pleased.

6329. Had you any special exercises ready for him

Mr D. M. J. James.
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to see, or did he just take the classes as he found them?—Just as he found them.

6330. Just saw each doing what they were accustomed to do from day to day or from week to week, I should say, rather?—Yes.

Continuation classes.

6331. Then continuation classes; there has been no physical training in connection with those hitherto?—None.

6332. But private classes in physical drill and gymnastics are held in the town every winter. These have been fairly successful in point of numbers, and could be developed to some purpose in connection with the continuation classes. How are they arranged for?—Well, it is simply a private enterprise. It is this same instructor who holds classes on his own initiative at his own risk.

6333. When you say the same instructor, do you mean the same instructor that you have dismissed as it were?—Yes, the same man.

6334. But you have dismissed him from the elementary school?—Well, he left for South Africa, and he was not taken on again when he came back; it was not found to be satisfactory.

6335. But the same instructor, on his own hook, as it were, has started continuation classes; what are virtually continuation classes?—Yes; you may call them so; yes.

6336. And how are they paid for?—Oh, the pupils themselves just pay a certain sum to him.

Boys and girls.

6337. Is there much readiness among pupils, do you find; there are boys and girls also?—Yes, both.

6338. What sort of size would his class be?—Well, he has different classes. He has them at different ages from those of school age up to young men.

6339. And is it within your knowledge that he grades his classes according to age?—No, he does not.

6340. I mean his further classes?—No, he does not.

6341. How does he grade them then?—I am afraid he is hardly able to grade them.

6342. He takes every one who comes?—He tells me he must just practically give them what they want.

6343. They all come to him in a body?—They all come to him in a body.

6344. And he gives them something for their money?—And he gives them something for their money.

6345. There is no examination?—There is no examination.

6346. None whatever?—No.

6347. And they get nothing in the way of a grant?—Nothing.

Mental plus physical training.

6348. Have you any strong opinion as to the advantage of physical instruction of children?—Yes, yes, I have; I think that it is quite as essential that they should be trained physically as that they should be trained mentally.

6349. And the two things go together?—Yes.

6350. One helps the other?—I should think so.

6351. Perhaps I should not say one helps the other, but the physical exercise helps the mental?—The physical exercise helps the mental; I should certainly say so under proper circumstances.

Health.

6352. What sort of state of health obtains generally among your pupils?—I may say we are a country district as a whole, and good health prevails.

6353. There is not much smoke about you, is there?—Oh, no, no.

6354. Do you find any complaints from parents or otherwise as to physical instruction being given; do they think that in giving physical instruction in your elementary schools that the mental instruction is retarded in any way?—Oh, no.

Militarism.

6355. Is there any cry in your district against what they call militarism?—No; I have heard none.

6356. Is there any instance of militarism?—I do not know that there is any occasion for the cry.

6357. What do you call militarism; it is a word very much talked about?—It is a difficult thing to define.

6358. But it is mentioned very frequently in the public press at present?—Properly considered, I do not see any objection to militarism; we should all of us be potential soldiers, and in that view I do not see any objection to it.

6359. Have you any Volunteers in your district?—Yes.

6360. Any Boys' Brigade companies?—There is a Boys' Brigade company.

6361. How many?—About eighty.

6362. Eighty companies?—Oh, no; about eighty in the company.

6363. Oh, one company?—One company; yes.

6364. And what denomination is that under?—It was begun by the Episcopalian clergyman with a committee—there is no official standing, just, you may say, private enterprise.

6365. Do I understand you that all religious denominational authorities join in that?—Oh, yes.

6366. But they do essentially join in it?—They do.

6367. *By Sir Henry Craik.*—What is the size of the school of which you are headmaster?—The number of pupils on the roll in the summer time, when it is the largest, amounts to about 900.

6368. When was the school built?—In 1841 originally; the original Duchess' School was founded in 1839.

6369. But surely there has been a good deal of building since the School Board came?—Yes; that is the original building.

6370. From first to last the cost of the building must have been perhaps £10,000 or £12,000?—I should think so, probably.

6371. What would the cost of a drill gymnasium be?—Well, the idea was we are wanting room, our classrooms are insufficient, and the present idea is to have it along with an additional building, and the additional building, which was to contain six classrooms and a gymnasium, is calculated to cost about £4000.

6372. How much of that do you ascribe to the gymnasium?—Well, perhaps it is a little difficult for me to say—perhaps £1200.

6373. Yes; about one-twelfth part of the cost of the school?—Yes.

6374. Your rate is under the average in Scotland?—Yes.

6375. Considerably?—Yes.

6376. So that really no great burden would be placed upon the School Board by building a gymnasium at any time?—No.

6377. Probably the fact was that they really did not attend much to this subject?—Oh, that is the fact.

6378. It was not the difficulty of raising the very small sum required, but the fact that they had not when that school was constructed thought it was an important part?—Quite so, and even yet.

6379. You speak about the enlivening influence of musical accompaniment?—Yes.

6380. Why is that wanted; why have you not got that?—We have it inside; I mention that in connection with the outside, when we take it outside, that is an objection to having it outside.

6381. You never tried anything like a school band?—No.

6382. Going on to the next point, you attach much importance to this physical drill?—Yes.

6383. I observe that as your classes go on from three-quarters of an hour it drops to half-an-hour as the week?—Yes.

6384. Why is that?—Just the pressure of subjects in we go upwards.

6385. Whence does that pressure come?—Well, I suppose we may put it, partly the pressure at the end is, of course, to make a good appearance at the merit certificate.

6386. Something else: you send a good many boys for the bursary competition at Aberdeen, do you not?—We used to, but that has rather dropped; our clever boys are rather giving that up and going in for the Civil Service work rather.

6387. Then it is not anything that is required by the Department, but it is the competitive pressure in brain subjects amongst the boys.?—Yes; partly that.

6388. What else?—Well, another point is our classes are very heavy at present; they are understaffed. We have, for example, an average of 100 in a class or standard, with a certificated teacher perhaps and an ex-pupil teacher or pupil-teacher. That is of course quite under-staffing. That also, I am glad to say, is being remedied.

6389. That under-staffing as well as insufficient premises has been the means by which your School Board have got its rate considerably lower than the average of Scotland?—It is; that is so.

6390. The want of being able to overtake this extra work is not then due to anything in the Code, but to the unwillingness of the School Board to make the proper provision?—Well, I should at least be inclined to say that; under favourable circumstances—that is to say, with a proper staff and with a gymnasium, there would be no impossibility in our case in giving physical training daily. I should at least go that length.

6391. There would be no impossibility?—There would be no impossibility of giving it daily.

6392. And, of course, from what you have told us just now of the appreciation you have of the importance of physical training, you cannot possibly be satisfied with one sixtieth part of the week given to it?—Certainly not.

6393. That is all that you give, I think?—Yes.

6394. Out of thirty hours, you give half an hour a week?—Yes.

6395. How do your ordinary teachers get the instruction that is necessary in the absence of a qualified instructor?—Well, we usually have five or six qualified by having attended those classes under Colonel Cruden in Aberdeen; those classes for teachers in Aberdeen.

6396. And you think that is sufficient?—No, I do not think that is sufficient. When I say I should prefer the ordinary teacher, I am thinking rather of what should be, that is to say, that I think the teachers should be trained also—thoroughly trained, physically as well as mentally.

6397. What amount of instruction have they from Colonel Cruden's Institute?—It means three weeks three or four hours a day.

6398. And then with regard to the last paragraph, you speak of those private classes of physical drill; those private classes are paid by fees?—By fees.

6399. Then presumably they are confined to the well-to-do class in Huntly?—Yes.

6400. I mean to those who can pay a fee?—Yes.

6401. The poorest class are excluded?—The poorest class are excluded.

6402. And there are not evening continuation classes for physical drill open to the poorer classes without fees?—No, there are not.

6403. Do you think that they would avail themselves of it if it were open?—I should think so.

6404. The School Board has never turned its attention to that or sought to get a grant for that?—No; I do not think it has ever seriously considered the subject.

6405. *By Professor Ogston.*—Do you consider that your teachers and inspectors are competent to detect in the children all the defects that bear upon their fitness for physical drill?—Well, that is a point undoubedly; no, scarcely.

6406. Would you desire that they should be trained by the advice of a medical officer?—Oh, I think certainly; harm might be done, instead of good.

6407. *By Mr Fergusson.*—You say you are going to have a gymnasium?—Yes, sir.

6408. Is that for teaching gymnastics with appliances, or is it to be used as a drill hall?—It is with the idea of just carrying on this same drill, only in a more efficient manner, I think, and probably there will be apparatus—that is not mentioned here—for the higher pupils.

6409. You mean when a class is going to have physical training of any sort, it will be taken into the gymnasium?—Yes.

6410. When you have got that, do you propose to increase the time devoted to physical training?—I should like to give it, say a quarter of an hour a day, or, say, twenty minutes each day—daily.

6411. That would not come to two hours a week even?—No

6412. But why not more?—Well, I really do not know if we could afford more.

6413. You are afraid of its having a bad effect on the other subjects?—Partly, and I think if twenty minutes—if it were really done every day and were taken advantage of to the full—would be fairly satisfactory.

6414. At anyrate, you look forward to more?—Oh, certainly.

Board's attitude.

6415. Is your Board much interested in physical training?—I cannot say that it is much interested. Some of the members are, but on the whole the attitude is one of scepticism as to the good of physical training. They say, of course, 'We are very well off 'for playing grounds, and our boys and girls could 'have ample opportunity for games,' and many of them hold that that is quite enough.

6416 In what way did you find your instructor 'less satisfactory,' as you have expressed it?—Well, he did not have the same command over them; he was excellently qualified himself; but I could see that they themselves did not seek to exert themselves.

6417. Then you entrusted him with the whole teaching of the class?—For the time, yes.

6418. He did not come in the way of just supervising the work the teachers were doing?—No.

6419. What would you say to that plan of doing it; that the teachers should do all the ordinary teaching, and that the expert should only come now and again to see that everything was going on right, and to point out with his expert eye any fault in the teaching or in the scholars?—Well, I daresay there might be no objection to that.

Physical training after fourteen: compulsion.

6420. Would you like to see physical training carried on after the age of fourteen?—Oh; I think it is a thousand pities it should be stopped at the age of fourteen, which is when I think really it is beginning to have some effect.

6421. Would you be prepared to make it compulsory?—Well, rather than not see it, I would.

6422. Would you make it a subject by itself, or would you include some other form of learning in the continuation classes?—I do not think I would associate it with any form of learning—of mental work.

6423. You would make some form of education compulsory, and let physical exercise be one of the subjects?—Yes; I think we all of us should be prepared to serve—if in no other capacity—as volunteers, and along with that a system of physical training might be combined.

6424. You have got the idea of a volunteer as the end of it; but consider it solely to make the male population—or the whole population—physically fit?—Physically fit; yes.

6425. Without any reference to whether they are going to be volunteers or not?—Oh, certainly; yes.

Expert instructor.

6426. *By Mr Alston.*—In the word 'grip' how much do you include; you have hardly answered Mr Fergusson's question?—Well, control over the class; they felt that he had not, as it were, the same authority over them that their ordinary teacher had, and, therefore, they did not exert themselves in the same way.

6427. Even in his giving the commands; did they not recognise the authority in giving the commands?—Not with the same alertness and smartness that you would have considered indispensable for physical drill.

6428. And yet a professional instructor of that kind generally gets all he wants?—I suppose so; I am just telling my experience.

6429. Is he the only man you have come into contact with?—Only this man.

6430. So you cannot speak generally?—No.

Teachers: ordinary staff.

6431. Then on the whole you distinctly advise that the teachers of the schools should be qualified to instruct?—I distinctly understand that.

6432. And they would have the grip and control?—

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They would have the grip and control. A specialist perhaps is inclined to drive his own hobby too far.

6433. What kind of hobby?—Suppose a man comes in for physical drill, he might perhaps drive the physical drill a little too hard; the teacher would probably have more sympathy with the pupils, and more knowledge of their separate individualities, and constitutions, and capacities; and be better able to make allowances for them.

6434. It would have the double advantage of the teacher being competent to instruct, and also of knowing the individual pupil?—Yes.

Boys' Brigade.

6435. Then the other point is about the Boys' Brigade company. If I am right, Huntly is one of the examples in which several denominations joined together in raising a company?—Yes.

6436. There is only one company in Huntly?—There is only one.

6437. The strength is about 80?—About 80.

6438. Where are the officers drawn from, do you remember?—The officers are drawn from the Volunteers.

6439. In connection with more churches than one?—Oh, yes.

6440. What do you consider the value of the Boys' Brigade company is in connection with physical and military drill in the school; you have boys from twelve to seventeen, and therefore many of them are within school age?—Many of them are within school age.

6441. Has it any effect on the school, either in the matter of discipline or the desire for exercises of that kind?—Well, I should certainly say it was good.

6442. Could the Boys' Brigade company fulfil the conditions of the further teaching of physical drill and military exercises in continuation classes?—No, I do not think that would be sufficient; I think it would need to be more regular and systematic than their meeting.

6443. Throughout the whole year do you mean?—Yes, or at any rate throughout the whole winter.

6444. Instead of merely during six months?—Yes.

6445. Are they very efficient?—They are considered an efficient Boys' Brigade company; yes. They have very good officers.

6446. Then upon the whole you would say that their influence was good in the direction that you desire, in view of the importance of physical exercise and drill?—Yes, the influence is good so far as it goes.

6447. *By the Hon. Thomas Cochrane.*—I see you refer to the drill having taken place in the infant department?—Yes.

Ventilation.

6448. And that was objectionable in some respects?—Well, ventilation.

6449. The ventilation was bad?—Well, although there is an interval, still the place cannot be so thoroughly ventilated as a physical drill hall should be. You will want, of course, very good ventilation when physical drill is going on.

6450. Is it generally an ill-ventilated apartment?—I cannot say that it is well ventilated—the ventilation has not been a success.

6451. Is it in the winter necessary for infants that they should have a well-ventilated room to do their ordinary work in?—Oh, certainly. I do not say that it is badly ventilated, but it is not what I should like to see it finally.

6452. And has anything been done to improve the ventilation?—Yes, many things have been done.

6453. Has it been reported on by the inspector as being an ill-ventilated room?—Yes.

6454. And yet the defects have not yet been remedied?—Yes, the board have done a number of things, but I cannot say with complete success.

Classes: overcrowding and understaffing.

6455. And are your classes—I gathered from what you said that they were overcrowded?—Yes, I think they are.

6456. And under-staffed in the elementary classes?—Yes, but that has been set right; that is what the building is for—to allow of greater room—a new building.

6457. You intend to have more assistance in the elementary classes than in the past?—Yes, more room and more assistance.

6458. Did the Inspector make any remarks upon the general animation of your pupils; do they suffer from these ill-ventilated rooms and want of supervision; are they animated in manner?—There has been no complaint on that score.

6459. Not that they appear to be in their oral work?—No complaint has been made.

6460. I see a report here that was handed in—1901—in which the Inspector remarks that 'Standard V. 'boys are doing good work on paper, but are without 'sufficient animation in their oral work'; that had nothing to do with the ventilation?—That remark did not bear on the ventilation.

6461. I see that apparently in this report what I want to get at is that in the earlier classes—the infants and so on—you give more time I think to physical drill than you do in the later classes?—Yes, that is so.

6462. You did not exactly explain why it is in the later classes?—Well, in the infants you scarcely have an infant class without giving them considerable relief from mental work; you must do that in the case of infants especially; there is not the same absolute necessity, perhaps, in the upper class, although it is certainly highly desirable.

6463. You think it is very desirable they have physical education in the upper classes?—Oh, certainly.

6464. I see in your upper classes that you go in for rather high subjects, rather, I should have thought, beyond the scope of an ordinary elementary school; you go in for Latin and French and German?—Yes, but you see we have a secondary department, with a separate building and a separate staff.

6465. It does not refer to your ordinary elementary classes?—No; it is a different department.

6466. What length of time would you suggest as being sufficient for physical exercise for boys up to fourteen years of age?—Well, I have mentioned a quarter of an hour daily.

6467. A quarter of an hour daily as being a minimum?—As being a minimum.

6468. You had a specially qualified instructor not successful, I think?—Well, he had not that grip, as I say; he had not that control. He did not get the same work out of the scholars as their ordinary teachers do.

6469. How was he qualified?—He was at Aldershot; went through a six months' course at Aldershot.

6470. In the gymnasium?—Yes.

6471. And was it more in manner that he failed?—Yes; he was a young fellow, and they just seem to think, 'Now we are not under our ordinary teacher, 'now we are not supervised in the same way, and we 'will rather take it a little bit easy.'

6472. And he had not got the moral qualities?—No.

6473. Could the teacher not have been present to support him?—Well, there is a little difficulty of divided authority there, perhaps.

6474. Was there any jealousy between the teachers?—Well, a little bit; yes, a little difficulty. I do not think they could work well with him.

6475. Perhaps he was not of sufficiently high calibre to influence the teacher. If he was a man obviously thoroughly acquainted with his subject, the teacher would be willing, perhaps, to take hints from him?—Oh, certainly.

6476. If he was a man of lower social standing than the teacher he might not be so ready to submit to his teaching; was that the point?—I do not know that that was the point; that may have had something to do with it.

6477. I want to get what you would suggest for the future. The teacher would be perhaps the better with some skilled supervision from time to time?—I think so, provided that there was a provision that the teacher was thoroughly trained, or as thoroughly trained

physically as they are at present mentally—went through a thorough course of instruction.

6478. If your elementary teachers in the schools were thoroughly trained?—Were thoroughly trained; yes.

6479. But you think they should be supervised from time to time by a professional expert?—A professional expert; yes.

6480. Not of the calibre you have had, but rather superior?—Superior.

6481. A kind of superior education and intelligence?—Yes.

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The witness withdrew.

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6482. *By Professor Ogston.*—You are F.R.C.S., Edinburgh?—Yes.

6483. And L.R.C.P., London?—Yes.

6484. And senior surgeon to the City Orthopædic Hospital, Hatton Garden, London?—Yes.

6485. And you have had very great experience regarding such a subject as we are dealing with just now?—Yes, I believe so.

6486. Disease during the development age?—Yes.

6487. From developmental and other causes, and from long experience?—Yes, about twenty-five years.

6488. Would you mind just going on now with your notes of evidence?—The first question is in regard to the standards of height, weight, chest girth, spirometry, and biceps girth of children, at various ages from six to eighteen years. The standards of height, weight and chest girth have been already much discussed by medical men, and the facts elucidated are no doubt of great value. Height, weight and chest girth have a distinct value in estimating physical development, but they do not give much information as to physical strength. The points which I consider of much greater importance are—the ability of the individual to maintain an upright spine and an expanded chest. Even a weakly child may hold himself upright with the chest expanded for a few moments, during which measurements may be taken, but he will droop again directly afterwards to his habitual posture—to his habitual stoop in sitting, and his habitually protruded abdomen and flattened (or depressed) chest in standing. We meet with various conformations of bodily structure—tall, short, stout and lean—and often the height is much in excess of the breadth of body for physical perfection, but the object being, not to select the strongest figures, but to do the best for all, it becomes the more important factor to direct our efforts to making the best of each individual. For instance, if a child exceeds in height, we cannot reduce that height, but we should endeavour to keep him upright, by strengthening his back and developing his breathing powers, and thereby developing his chest. This leads us to the subject of spirometry, which was long ago extensively experimented upon by the late Dr. Hutchinson. The details of Dr. Hutchinson's work are highly interesting and instructive, and I think it would repay the trouble to examine children and youths in this way to discover their powers of respiration. However, we have a more practical indication of these powers in observing the ability of young people to hold themselves erect and keep their shoulders back, and their chests expanded without throwing their abdomens forward. (*Witness then showed some photographs illustrating young people with severe stoops and other spinal deformities arising from weakness, in combination with bad postures in standing and sitting.*) The methods by which these results are to be obtained certainly include systematic physical exercises, but they also demand attention to other points. These points are in my opinion:

1. Suitable clothes.—The majority of children being prevented from developing naturally by clothes which restrict chest development.

2. Postures in school.—Stooping and twisting the body, being caused by unsuitable chairs and desks. In this respect upright handwriting and ambidextral work are very helpful as preventives.

3. Nutritious food.—Want of power being engendered by want of sufficient nourishment. Growing children require as much nourishing food as they can take.

Upon all these questions I could enlarge very much, but I have concentrated them as much as possible. The biceps girth of children I consider to be a matter of almost absolute indifference. I should depend upon general appearance of physique, firmness, not size, of all muscles, and the ability to sustain exercise without unnatural fatigue. My observations in regard to suitable clothes refer to children up to any age; there is no limit to it. Certainly from perhaps two to twenty. You might apply it to any age. As regards estimating the physical strength by measuring the biceps muscle, if we only had the biceps to go by, you might get some indication as to general strength, but to take a biceps measurement as a standard test is to my mind a very uncertain method. You might develop the biceps, and a child might be taught to use one arm only and develop the biceps of that arm, and yet he might be feeble and weakly everywhere else. It is the general appearance, the general physique, which is the best guide. A healthy child is naturally active, and any want of disposition to activity I should take as an indication of weakness of system requiring medical supervision. As to the particular age, we should not expect nor desire great muscular development in young children, certainly not under twelve years of age, or even under fourteen years. Up to the time of puberty a child is developing—in plain words, growing—and is not qualified to endure any great trial of strength. Therefore the exercises during this period should be moderate in extent and well within the powers. Many children are deformed by too great a strain being put upon their physical powers during the age of growth. During this early period well-ordered games, such as cricket, fives, football, hockey, etc., are the best exercises, although systematic drilling is also beneficial if kept well within the powers of the pupils.

Points requiring attention.

Games.

The proportion of physically and mentally defective children, from such causes as nerve deafness (incurable), diseased ears, blindness (myopia, hypermetropia, astigmatism), tubercular glands, tubercular joint or other diseases, rupture, diseased teeth, deformities, general weakness, etc.?—I am not prepared to state the proportion of children who suffer from tuberculous diseases, such as diseased glands and joints, deformities, general weakness, etc., but I consider that such diseases emanate chiefly from the following causes:—

Diseases: causes.

1. And foremost, insufficient nourishment.—I am told by Scotch medical men that in the Highlands tuberculous diseases were rare while there was plenty of animal food for children, but during more recent years, when they have had to depend more upon farinaceous food, tuberculous disease has greatly increased. And this statement is quite in accord with my own observations of children generally.

2. Good Hygiene.—Fresh air is very important, and although the air of Scotland is phenomenally healthy, yet the homes of the poorer classes in all countries are often unhygienic, and children have to sleep in close ill-ventilated rooms.

Are country children physically or mentally superior to urban children? Do statistics exist bearing on this? Are country children improving or degenerating? Statistics? Are urban children improving or degenerating? Statistics?—As to country *v.* town children in respect to physical and mental development. I consider this is generally a matter of detail. Granted equal

Town and country children.

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advantages as to food and hygienic surroundings, the country is undoubtedly superior to towns in respect to general health, and therefore as to physical and mental capacity. I use the word capacity advisedly, because the influence of town life may unduly develop the mental capacity, and the extra advantages often obtainable in towns for systematised physical teaching may unduly develop physical strength.

Exercise for country children.

Does the work or exercise of country children dispense with the need of systematised exercise for them?—As to the work or exercise of country children being calculated to dispense with systematised exercises, that depends entirely upon details. We must be guided by general principles. And under both circumstances the physical exercise should take a prominent place in the daily work.

Physical and mental development: relation.

Does improved physical development entail improvement in brain power and in acuteness of the faculties? Do limits as to this exist, particularly at any age?—Physical development if not carried to excess will improve the brain power and acuteness, or I would rather say ability of the faculties. As regards age it must always be remembered that in the young (certainly under fourteen) we must not force the powers either physical or mental. We do not aim at producing phenomenal children, but strong and able adults, and therefore all development, either physical or mental, must be allowed to take place gradually.

Morals.

Does improved physical development imply improved morals? Does improved physical development promote morality?—Whatever conduces to health also conduces to a sound morality, and therefore if a child be physically developed in a healthy and not too forced a manner, his morality will be improved.

Physical census.

Is a physical census of children desirable or necessary? In what ought it to consist?—It would be useful, but would require a great deal of work by well-qualified medical men.

Medical inspection.

Is inspection of the health of school children by a medical man necessary at present? Will it become necessary if physical training be increased and rendered more systematic?—Most desirable. It is impossible for a layman to estimate the physical capacity of his pupils. The medical diagnosis of disease, for instance of the eyes, cannot be undertaken by anyone but a medical man, and such inspection would be very desirable whether 'physical training' be increased or not.

Girls: special clothing.

Is special clothing required for girls undergoing physical training?—Yes and no. Yes, if the present unsuitable clothing be persisted in. No, if all children were so clothed that they had free use of their lungs and limbs.

Physical training: forms.

Distinguishing the following forms of physical training, viz.:—Ordinary exercise; ordinary work; walking and running; games; exercises of the trunk and limbs; musical drill; gymnastics; military drill; self-defence; boxing; shooting; swimming.—All the exercises named are good in their way. There should be a judicious adjustment. There is one method of physical development which I would suggest has been omitted, that is the workshop, and I think that in physical training a great deal might be done by making the physical exercise of a useful character. I think that use of a workshop might be added to the gymnastics and military drill, etc., and become a very valuable and important physical exercise as well as a useful instruction. I should very much like to add that kind of physical exercise to the others.

Workshop.

Value for children.

What is their absolute and relative value to children aged from six to twelve; from twelve to fourteen; from fourteen to eighteen?—From the ages six to twelve, exercises should consist almost entirely in play. Nothing which entails continued strain upon any set of muscles should be permitted. Therefore long walks are objectionable, and games which entail long-continued strain. Systematic exercises such as are now called Swedish, or musical drill may be introduced, but regular daily gentle exercises should predominate rather than occasional excessive drills, that is at the earlier age. Then from twelve to fourteen greater latitude should be observed according to the peculiar aptitude of individuals. Here medical advice would be very useful. From fourteen to eighteen the pupil should, if healthy, be able not only to undertake the regular systematic exercises, but also and with advantage to take part in trials of strength—such as racing across country, etc., but even at this period of life the weakly should be restrained.

Physical exercise: value.

Do they, in the healthy, prevent eye disease (short-sightedness, astigmatism), joint diseases, spine diseases, tuberculosis? Do they, in weaklings and those predisposed, cause or favour rupture, heart disease, joint and spine disease, tuberculosis, fractures, dislocation, or other injuries, brain and sinus disease in ear cases?—Physical exercises which develop the body healthily will ward off the tendency to disease, but can hardly be considered curative or even preventive of some of the diseases named. If any of these conditions exist, a medical man's opinion must be obtained before any rules as to physical exercises can be safely given. Weaklings and those predisposed to rupture, heart disease, etc., ought to be examined by a medical expert, who should define accurately what kind of exercises are suitable to each particular individual. The next question is:

Are (1) exercises required by the present race of children? Are (2) games required by the present race of children? Are (3) gymnastics required by the present race of children? Is (4) military drill advantageous to the present race of children?—I do not see how the present race of children differ from former ones sufficiently to make us differentiate as suggested. The chief difference that I see is that in the present day the nervous system is more developed than the physical, and we see rapid growth in excess of robust growth. Undoubtedly modern requirements tend chiefly to develop the nervous system.

First aid and ambulance.

To what extent is (5) first aid and ambulance instruction desirable, if at all, in children, and to what extent should it, if desirable, be adapted to their ages, intelligence, and circumstances (*e.g.*, six to fourteen, and fourteen to eighteen years)?—It is a question as to whether such instruction is of much practical use to any non-medical person, but as regards children, I think it had better be left alone. A general knowledge of physiology and anatomy is doubtless useful to non-medical persons, and especially useful if they can put such knowledge into practice by applying first-aid to the injured, but sometimes an imperfect knowledge of this kind may do more harm than good. A knowledge of first-aid and ambulance work may be very good for adults, but is hardly applicable to young children.

Boxing, &c.

Is instruction in self-defence, boxing, shooting, advantageous or otherwise?—Decidedly beneficial, and especially single-stick and boxing. I do not know anything which is more likely to develop quickness of sight, and also we have the benefit of the physical exercise.

Swimming.

Is instruction in swimming beneficial; and to what extent?—Every child should be taught to swim, unless medically incapacitated.

Best system.

What system of physical training is best?—My previous remarks answer this question to some extent. Almost any physical training that is not carried to excess will be beneficial. This training must differ with different conditions, different schools, different places, the opportunities and so on, but I should again like to call attention to useful recreations, and especially the workshop. Generally workshop work means indoor work, and also bending over benches. But that might be obviated in some way. I should not consider indoor exercise so good as outdoor, but it might be substituted for outdoor exercise in wet weather.

Merits of physical training out of doors and within doors.

What are the respective merits of physical training as practised (1) out of doors, and (2) within doors. Is the schoolroom adequate? is the playground adequate? are special fields for its practice necessary?—Certainly out of doors as much as possible. The schoolroom should not be used if possible, unless in very bad weather and another place being unobtainable. The

exercises should always be considered by the children as recreation, and should be away from the place of their work, which requires free ventilation in the intervals of school work. As regards the exercises being considered by the children as recreation, that again may have to be modified, because there are some children, irrespective of disease and weakness, who are disinclined to activity. I do not think that occurs very often. Generally, if a child is disinclined to take some active exercise, there is some cause which requires attention.

What is desirable in a proper gymnasium? Are any precautions needful in gymnasia? What is desirable in a proper swimming bath? Are any precautions specially needful in swimming baths?—I have not considered these matters, and do not offer any remarks upon them. Of course I could easily have filled up answers, but really they seem to me such obvious things that would occur to any one that I did not think it was worth while. I would say this with regard to gymnasia: I think the more simple the apparatus the better, but that is a matter for a careful teacher. If you have a careful teacher, the exact regulations had better be left to his discretion. One teacher might use certain exercises which another teacher might not be competent to control with safety to the pupils. Of course in all gymnastics a certain amount of risk must be incurred. I should say the advantages of gymnastics are well worth the risks.

In what should the physical training of girls consist? What games are best adapted to them?—Systematic drill, and so called Swedish exercises are very suitable for girls, but care must be taken not to cause overstrain, and especially during the earlier years. (See also answer to next question.)

Are any particular games (*e.g.*, football) injurious to boys or to girls?—Football is very good for boys, and might even be played by girls, but cricket and hockey are particularly suited to girls. Cricket was introduced at my advice many years ago at the Princess Helena College for girls at Ealing, and found so successful that it has been continued ever since. Of course with regard to football, as boys play it, it may be rather a rough game, and if you were to imagine girls playing it the same way, you could easily find objection to it, but in all these things, if girls take it up, they do it in a very different way to what boys do, and if they were to attempt to play football, it would probably be a very gentle game. The same may be said with regard to cricket. They might be injured by rapid bowling and by long-stopping, but then you will not get that. The girl bowls in a gentle way; with girls there is no hard hitting to injure the others. Objections, which would very reasonably arise if boys and girls were playing together, do not apply if girls are playing by themselves.

What is a just proportion of time to be devoted to physical training in relation to study?—This must vary with circumstances, age, health, and opportunities.

Is physical training most advantageous if carried out daily (or frequently) in connection with school work? Should military drill be carried out in periodic classes or daily?—It depends entirely upon what facilities are given for games. Special physical training, such as drilling, should alternate with games, and should be made pleasurable to the pupils. It might suffice to have a skilled instructor once or twice a week, and the elder scholars or the teachers might learn to superintend the exercises on other days.

Does the instruction of children in physical training require an improved dietary? Will it, if introduced into schools, require any special provision to be made in this respect? Should an improved dietary be required? Can any suggestions be made for carrying it into effect?—This is a most important question. The majority of illnesses (apart from zymotic diseases) arise from errors in diet or insufficiency of nutritious diet. A growing child requires as much good food as he can assimilate, which means as much wholesome food as he is inclined to take, to produce the best physical strength, and I consider that physical development and strength depend more upon this one factor than upon any other. Certain it is that if any increase in physical exercises be put upon insufficiently nourished children, it will do more harm than good. It should be realised that it is not the actual exercises which give strength, but the reaction after exercise, and unless there is ample nourishment in the child's body to furnish material for the growth and development which are thus set up, the tissues will degenerate instead of becoming stronger. A very large proportion of the cases of spinal curvature, whether due to weak joints or diseased bones, can be attributed to weakness, or, I may say, insufficient nourishment. The question regarding improved dietary is a very large subject, and I will only now make one remark upon it. I consider that the dietary of children is generally deficient in animal food, of which eggs and bacon and milk as well as butcher's meat take an important place, and also often deficient in hydrocarbons or fats—oil, fat, butter—and excessive in farinaceous food, such as various starch foods and meal, including oatmeal. I daresay I shall run counter to a good many opinions upon this subject—oatmeal contains, no doubt chemically, a great deal of nitrogenous element, but then there is a starchy element, and the question is whether the child can digest it. If oatmeal can be digested, well and good. It contains all the elements wanted, but so far as my experience goes, and it is supported by many other observers, there are few of our southern children who are able to digest it thoroughly. Probably the fine air of Scotland may help children to digest oatmeal, but in England one frequently observes indigestion and malnutrition accompanying a too liberal supply of oatmeal in place of other food. Rickets is a disease of malnutrition resulting from irregular feeding, and often from excess of farinaceous over animal food, and tuberculosis also attacks those who are deficient in strength from deficiency of strengthening food.

Athletics: excess.

What are the results of experience regarding physical training, athletics, etc., in secondary schools and universities?—My experience as a surgeon dealing with bodily deformities is that in public schools athletics are often carried to excess, that not enough discrimination is exercised in respect to the physical condition of the scholars, and this is often in opposition to the advice of school doctors, who are placed in a difficult position as receiving their appointments from the school authorities. This points to the desirability of more freedom of opinion being given to school medical advisers.

Is it ever found to be adverse to the intellectual development or progress of the scholars? Is there any fear of its becoming so?—It is quite possible that physical training and athletics may be, or at least might be, allowed to predominate to such an extent that they would be adverse to intellectual development, but it should be recognised by all school authorities and others that for the development of a sound mind (using the term liberally) we must, in the first place, take care to have a sound body.

6489. Would you allow me to ask one or two questions in elucidation of one or two of the points in your evidence. I see that in the first place you attach very great importance, as a practical test of health, to the ability of the child to assume and maintain for a prolonged period an upright spine and expanded chest?—Yes.

6490. In fact, a healthy child ought to be a well-set-up child, and a well-set-up child is likely to be a healthy child, and this maintenance of the posture, indicative of health, ought to be maintained till the period of full growth, I presume?—Certainly.

6491. It ought to be encouraged by exercises until the period of full growth?—Certainly.

Physical exercises

6492. Until the bones have assumed their permanent form. Up to what period, therefore, would you advise that physical exercise should be either compulsory or enjoined?—So long as such pupil is under school supervision, until he is able to undertake his part in

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life, so as to regulate those things for himself; there is no period of life at which anyone can be quite independent of some sort of physical exercise. There is no age at which anyone is free from the influences of bad postures.

6493. And would you think that system of physical training imperfect which neglected the maintenance of this position after fourteen and sixteen?—Certainly.

6494. You would continue it up to, if possible, what age; what age does a person cease to grow at?—Well, their bones do not cease to be ossified, as you know, till thirty; but I should say during the time in which they are under school teaching. That, however, being conditional upon their being in a fit state, medically.

Clothes unsuitable.

6495. The next point is about the suitable clothes, where you speak of these you say the majority of children are prevented from developing naturally by clothes which restrict chest development: what form of clothing is most obnoxious in that way?—The clothes worn by the majority of children are faulty in the way I refer to. The arms are drawn forward, the shoulders depressed, and the chest has not room for full expansion. With such clothes it is impossible to draw back the child's shoulders into a good position unless the clothes are unbuttoned in front of the chest, and even then the shoulders may be drawn down by braces and shoulder straps. It often happens that two or three or more inches are required in breadth across the chest to allow full expansion of the thorax. Quite four-fifths of the children who are brought to me on account of their stooping habits, are wearing such clothes. Then, again, the custom of letting nearly all the garments hang from the shoulders is harmful, as it interferes with development of the chest. Clothes should be fitted close to the neck, and should not hang on the tips of the shoulders. Petticoats should hang from the waist. No clothes which prevent free expansion of the chest should be allowed.

6496. Can a system of physical training be fairly well carried out in schools without the adoption of a special clothing?—Not if that clothing is such as I have described, because such clothes constitute a permanent obstruction to the child ever getting into a good position; if that child is bound down by his clothes you cannot expand his chest; that is impossible.

Boys' and girls' clothing.

6497. Are girls worse in that way than boys—worse situated in regard to clothing?—I should say that they are.

6498. Would you advise us to consider a special dress for girls during physical training?—It is no good having simply a special dress for exercises only; because if you have a special dress, the pupils will go back to their other dress at other times. I should think it much better to have all clothes made so as to allow the children to attain a good position at all times.

6499. At the foot of the first column on the first page you say 'many children are deformed by too 'great a strain being put upon their physical powers 'during the age of growth.' You would therefore adapt any system of physical training to that particular fact?—Certainly.

Medical inspection necessary.

6500. Do you think that teachers could be trained to examine the children sufficiently to detect any incapacity of eyes or limbs which would interfere with their getting the proper advantages of physical training without a medical man being specially charged with the duty?—I do not see how it is possible to depend upon such training. We find different degrees of intelligence amongst teachers, and some would learn to notice defects in the children, and probably upon the whole you would have to depend to some extent upon the intelligence of your teachers; but for exactitude you ought to have the help of a qualified medical man. Constant medical supervision would probably be impracticable, but if the children could be periodically examined, to determine, for instance, as regards such physical deficiency as a diseased heart, or defective eyes, then I think you would meet the chief necessities of the case. No lay teacher is capable of understanding the importance or the nature of such diseases and defects.

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6501. Do you approve of the system of physical training — the so-called Swedish — or musical drill which is carried out in the Board Schools of London?—I believe it is very good. From what I have seen of the Board Schools' management I believe it is good, but I cannot speak from personal experience.

Physical exercises their effect.

6502. And regarding your opinion that physical exercises which develop the body will tend to ward off disease, but can hardly be considered curative, or even preventative of some of the diseases named, I suppose that we might consider generally that it is your opinion that physical exercises properly applied, developing the body healthily, render children less vulnerable to ordinary diseases?—Certainly.

6503. What particular train of thought led you to recommend cricket as so suitable for girls?—I was asked the question many years ago, and as it is an outdoor game—of which girls have not many—I thought it might be substituted for lawn-tennis, which game was very likely to cause strains. My observations are made in accordance with the cases that come before me, cases chiefly of delicate girls with certain weaknesses of the spine, or of limbs, and I suggested cricket, because it gets girls out of doors and it involves alternative periods of exercise and rest. Perhaps I should not have laid so much stress upon cricket had it not been brought particularly before me. I think it is quite likely there are some better exercises.

Athletic excess.

6504. My last question is this; you allude at the end of your evidence to deformities produced by athletics carried to excess. Do you consider that if a judicious system of physical training were introduced into schools, and made compulsory for school children of all ages, it would lessen the risk of athleticism being carried to excess in the higher schools and universities?—I should think it would have that tendency.

6505. Probably I might elaborate my thought a little more?—Yes.

6506. My idea was to put it to you whether children enjoying the natural exercise which nature demands in the way of physical training would be less apt, when they grew older and were emancipated from school restrictions, to carry the natural tendency to an extreme in the way of athleticism?—I do not think so. I do not see why that should make them carry it to an extreme. I think if they have never had anything of the kind, when they get an opportunity they are more likely to carry it to an extreme, whereas if they have been taught it as a regular part of their education, they are much more likely to carry out their athletics without going to extremes.

Feeding and clothing of children.

6507. *By Mr Ferguson.*—There are just two points I should like to ask you about. You have laid great stress on the feeding and clothing of children; these are two matters which you consider of very great importance?—Yes.

6508. You know many of the Board School children are not very well fed; do you think that it is of such importance that it should be the duty of the educational authorities to do everything in their power to see that children are as well fed as possible? that it should be considered their duty to look specially into the food question; I do not say to feed them?—Well, I think it is; but as to how far such interference upon the part of school authorities should be carried is very difficult to determine.

6509. Still, it is a very important matter?—Very important, undoubtedly.

6510. You would not leave it to chance?—If it can be done, I think it ought to be done, certainly.

6511. And the same as to clothing; you do not advocate any special dress, but you rather think that attention should be called to dress that is not suitable, and an endeavour made to get the ordinary dress made suitable?—Yes; I have drawn up in a little pamphlet certain rules with regard to this subject, which I give to mothers and try to get them to attend to. It is very difficult to make mothers understand the necessity of the alterations, and so I rather try to teach the

principles to be followed than insist upon any special dress.

6512. You said it was very improper to do work before breakfast?—Yes.

6513. Of course you know that not a few children in large towns come to school without any breakfast?—Yes.

6514. Therefore I suppose you would say the educational authority should do all in their power to remedy that?—Unquestionably.

6515. *By Mr Shaw Stewart.*—May I ask the title of your pamphlet?—*Growing Children: their Clothes and Deformity.*

6516. *By Professor Ogston.*—For the laity?—Quite for the lay mind.

6517. *By Sir Thomas Coats.*—In regard to the ambulance classes for children, do you not think they would make a pleasing variety of the physical training?—That might be desirable. My previous remarks were upon general principles. As far as I have seen, I can hardly understand a child deriving much benefit from such instruction. It might be easy to teach them a certain amount, but when you speak of 'first-aid,' that generally involves a complete training in ambulance work, which does not seem to me to be adapted to children. There are certain things that might be taught them with benefit, but I think it would be rather dangerous to attempt such teaching as a regular course.

6518. I will just continue that; do you not think that a certain amount of instruction in ambulance work would encourage the children, after they grow up, to take regular ambulance lessons, so that they could give first aid in case of accident?—I am afraid I am a little bit sceptical upon the whole subject. I have seen so many mistakes made, even by quite matured people, that I have come to look upon this ambulance and first-aid as doing, very often, more harm than good.

6519. I happen to be connected with a large factory, and we have an ambulance corps. Time after time the members of the ambulance corps have been complimented by the surgeon of the infirmary for the way in which they have presented the case to him?—Now I understand better what you mean. That I take it to be quite under special circumstances. If you have to deal with large factories, I can quite understand the advantage of an ambulance corps, but I doubt if it would help much to train the younger children. I can quite understand the men in the factory doing what is necessary very well where they have plenty of experience, but I have known young women who have attended ambulance and first-aid classes get an imperfect knowledge, and apply it wrongly, instead of calling in a medical man; but a class in a factory, I can quite understand being of the utmost value. Perhaps children who are to work in a factory might be given some instruction in ambulance work under those circumstances; they ought to be selected children; it ought not to be made a general system. Children will sometimes show an aptitude for that sort of thing, and I should not discourage it; but with the majority such teaching would, I think, be better left alone.

6520. *By Sir Henry Craik.*—I am asking you only as a person quite ignorant of the subject; there is only one point I would like your opinion upon. You say amongst the causes of general weakness, that you put first and foremost insufficient nourishment?—Yes.

6521. And you adduce the case of the Highlands, where tuberculous diseases you heard were rare while there was plenty of animal food for children?—So I am told.

6522. Very well, but if we go back forty or fifty years, or even more, animal food was hardly used at all in the Highlands?—Is that so?

6523. It certainly is the case that a century ago animal food amongst the poor classes in Scotland was very rare indeed?—Then what did they live upon?

6524. I should say chiefly oatmeal and milk?—Well, milk.

6526. Yes?—Milk and eggs are animal food, and are of the utmost value under those circumstances.

6527. But is it not the case that a certain abstinence from food—a certain limitation of diet—may sometimes have rather a healthy effect?—Not with growing children. There is a great difference between development and the maintenance of the body. I should say, speaking generally, that a great many children are under-fed, and a great many adults over-fed. When once our bodies are formed we have simply to keep them going, and very often, probably a majority of people over fifty eat too much meat. They only require sufficient to keep up their tissues to provide for the waste, whereas a child has to be supplied with nourishment, not only to make up for waste tissues but also for growth, and that is why most children have good appetites. My observations upon that point are based chiefly upon the hundreds of cases of the poor people with deformities who come to the City Orthopædic Hospital. In the last fifty years we have had over 88,000 cases, and during my connection with the place (over twenty years) we have had about 10,000 attendances of patients annually. These patients, chiefly children, come from all parts of England, but mostly from London and its neighbourhood. Their deformities arise chiefly from tuberculous disease affecting the bones and joints, and from general weakness. When we inquire into the cause of such disease and weakness we can trace it to want of proper nutrition. We then inquire as to the food they live on, and it becomes evident that there is a deficiency in this respect. We take these children into the Hospital and give them plenty of good food, and they rapidly improve, and the majority recover perfect health. This experience has made a very firm impression upon my mind. Then we know from experiments of different kinds as regards the necessary amount and quality of the food. All good authorities on the subject agree that nitrogenous food is most important, and next come the hydrocarbons—that is the fats—and there are the minerals; but the starchy foods (carbohydrates) are of less value, and if given in excess they are not digested by young people. The excess of starchy food over the others is one of the causes of rickets. Children with rickets have generally been brought up on some artificial foods, which contain a great quantity of starch. I do not think any medical man will differ from that view. With regard to the quantity of butchers' meat, of course, there are differences of opinion, and I think very often a child is much better with other sorts of animal food, such as eggs, and plenty of milk, and things of that kind, and a certain amount of vegetable nitrogenous matter, such as what is to be got out of some of the meals. All these foods should be judiciously combined.

Proper classes of foods.

6528. Do not suppose that I am at all disputing your position; I am only asking for information; but we have in Scotland, of course, for many generations, and personally I have myself come across many men who spend years at the University in their youth, who certainly have had what one would be inclined to call insufficient nourishment, and grow up particularly strong men. You think that a certain restraint upon the nourishment can never be anything but harmful?—I should say that such cases were unusual. Some people will thrive under almost any circumstances.

6529. If one is drawn into contact with the class of children to whom you allude, is it wrong to be struck with the fact that the parents are always feeding the children, giving them something to eat. It is not so much the defect of food as wrong feeding, is it not?—Certainly. That is often so.

Improper and insufficient food.

6530. Travel with them in a third-class carriage, and half an hour is not allowed to go by without their having something to eat?—I quite agree with you, and that is one of the points I urge as a fault—improper as well as insufficient feeding.

6531. Improper feeding?—As well as insufficient. It is probable that food which could be assimilated in

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a climate like that of Scotland would not be digested in London.

6532. We heard from two witnesses—one of them a medical witness—that in the Hebrides of Scotland, although the children at times looked rather weakly when young, and perhaps did not have sufficient nourishment, yet they grew up particularly strong men, and that you would not notice any evil effect. How would you account for that—good air?—It would not be all the air. In the Japanese navy, one of their chief medical officers told me that formerly they lived chiefly on vegetable food, had very little animal food, and they were always sick; and they had suffered from a disease which was something like what used to be called scrofula. It was represented by himself and some of his friends to his Government that if they would only make the navy men eat animal food, it would make a difference as to health. An order was subsequently given that meat was to be introduced into the diets, and within a month or two this disease had disappeared. It cleared up entirely, and the Japanese navy is now perfectly free from it.

Animal food

6533. But there are races, are there not, that carry on great physical exertion with very much less animal food than is the average with the Englishman?—Yes. But I do not think you would find, if they were really put to it, that they could compete very long with any animal-fed man. We know from the structure of the body what is required in a diet, and we know from the teeth alone, for instance, that man ought to eat a certain amount of animal food.

6534. *By the Hon. Thomas Cochrane.*—I should like to add to what Sir Henry Craik said about the animal food; I think from my experience there is more animal food used now?—In the Highlands?

6535. No; I do not know about the Highlands?—In the Lowlands, I was told.

6536. I was told that there was very much less porridge now, and instead of porridge they were eating wheat bread and drinking tea, and that accounts to a certain extent, I think, for any deterioration in the Lowlands of Scotland. More meat, I think, they get, but they are giving up porridge; it is too much trouble to make, to make it well?—Yes. I should like to add this one thing. I spoke about the methods of detecting strength or estimating strength. I would suggest that the proper eruption of the teeth ought to be taken as a sign of strength and proper development. There are many other ways in which a medical man would estimate the strength; but if a child is backward in cutting its teeth, it shows a want of nourishment. There are many obvious indications of feebleness of bodily strength, but the proper eruption of the teeth, and the power to hold the spine straight, may be taken as two of the most useful for general purposes. I have brought several tables of statistics.

6537. *By Professor Ogston.* — Would you mind leaving them with the Secretary for a day or two, so that we could consult them?—I will do so.

6538. *By Mr Alston.*—Just one question before you go. I think I am right in saying that you regard manual instruction as being very desirable in the schools?—Yes.

6539. Meaning by that, shall we say, carpentry for these boys?—Yes, anything where their physical exertion can be employed, so that they can, instead of simply playing a game, be learning something useful.

6540. And if it were possible, cooking and laundry work for girls?—Yes.

6541. You think that would be an advantage for both sexes?—Yes, certainly; and you might even go further, and add agricultural work; in fact, any occupation that is useful and involves physical exercise, so long as it is looked upon not as a labour—in a measure a sort of recreation.

The witness withdrew.

Mr G. Cheyne, M.A.

Mr George Cheyne, M.A., examined.

6542. *By the Chairman.*—How long have you been headmaster?—Four and a half years.

6543. And how many children have you?—We have 125 on the roll.

6544. Is yours a country school or a town school?—A country school.

6545. Purely?—A country school; no village at all.

6546. Do your children come to school from a considerable distance?—Some of them come three miles.

6547. The legal limit?—Some of them would come about that as a limit.

Physical training: system described.

6548. Now please go through your notes on the system of physical training?—1. System of physical training in Kennethmont Public School. (1) In the Day School.—The system which obtains in the above school is mainly according to the manual of musical drill prepared by Colonel Cruden, Aberdeen. The school is furnished with the following apparatus:—Dumb-bells, bar-bells, Indian clubs, hoops. (2) In Continuation Classes.—No physical drill has ever been on the time-tables of our Continuation Classes. Dumb-bell exercises were given to the members of continuation classes 1898–99 and 1899–1900, who came up before the hour for opening the classes.

Use of opportunities.

2. Extent to which use is made of existing opportunities?—The time allowed for drill in the time-table of the school is, in the senior department (children over ten years) thirty minutes per week, and in the infant and junior division (children under ten years) one hour per week of 27½ hours.

The floor space in the school is such that not more than sixteen children can be doing dumb-bell exercises simultaneously, and in some exercises (*e.g.*, Indian clubs) the number is much less, so that, according to the time-table, no child gets more than ten minutes' drill per week of 27½ hours.

This is the full extent to which I can use the existing opportunities under the present conditions.

3. Means whereby physical training may be made to conduce to the welfare of the pupils.—The great difficulty in making physical training in country schools (where the staff is generally a headmaster and a certified female assistant) conducive to the welfare of the pupils is want of time, apparatus, and the necessary qualifications by teachers.

Before physical training can be a source of national strength, every parish must have a school gymnasium, where exercises could be taught, which would tend more to develop the muscles of the body and less to mere show. Children are very fond of physical exercises, and were local authorities compelled to provide gymnastic apparatus, I am confident that children would improvise appliances at their homes, and thus practise out of school hours.

Gymnastic exercises, however, tend to a spirit of emulation, and weak children may be discouraged. To guard against this I would, in addition, advocate the use of expanders, such as Sandow's, and class exercises in inspiration and respiration in fresh air.

Once a gymnast, always a gymnast; if boys are taught gymnastics at school there is no doubt but that they will attend continuation classes for a similar purpose.

My experience has been that, unless a youth has been taught gymnastics and manly sports as a boy, he will never take kindly to such recreations, and, therefore, the root of the matter lies in getting at the children while in school.

6549. *By Mr Fergusson.*—You are altogether very favourable to physical training?—Yes, sir.

6550. But you cannot give very much of it, not so much as you would like, at present in your school?—No, we have not the floor space.

6551. I see you go in for the exercises which take the largest amount of floor space—Indian clubs—you take more floor space for that than for any other exercise?—Well, we do not go in much for Indian clubs, we go in a great deal for dumb-bells.

6552. I do not quite see how you can only manage ten minutes a week for each child?—The fact of the matter is, that practically no drill is taught within the limit of the time-table. I said according to the time-table. Really drill is taught out of hours.

6553. Why?—Because in a country school such as mine, if I were to take drill, I disorganise the work of the whole school; the whole work of the school must be stopped.

6554. You cannot teach more than one class at a time, and you can teach drill just as much as you can teach arithmetic?—I have to teach four classes at one time in my ordinary work, and more than that, I teach standard III. to the Merit Certificate.

6555. Then you are under-staffed in your school?—Not according to the requirements of the Code.

6556. No, but according to the requirements of education. You do not admit that?—Well, of course that is for the Department to say.

6557. That is all that you find possible, but you would like to do more if you could?—Yes, I think everybody would like to do more drill.

6558. Even a central hall or a covered playground or anything would be no use to you?—Yes, great use.

6559. I thought your difficulty as a teacher was that you could not devote the time to it?—The time could be devoted if we had apparatus. I mentioned that as another of the grievances or hindrances.

6560. If you had a special teacher for drill, that would help you, I suppose?—Yes.

6561. He could take that class off your hands for drill and physical training, and so relieve you?—Yes, that would help.

6562. You have never tried a special instructor?—It is impossible to get one.

6563. At present?—Yes, under the present conditions it is impossible.

6564. *By Mr Shaw Stewart.*—A question or two further on that point; if you had a covered space in your playground, that would assist you, I suppose, in teaching physical drill, getting the children out?—Yes.

6565. And exercising them there?—Yes, even if I had space such as that I could take all the senior pupils and could use my pupil teacher for playing the piano.

6566. A covered space in the playground would be of great advantage to you in teaching physical training?—Yes, I think it would, such as a shed of some kind.

6567. Would you have any advantage in movable desks that you could clear away and get more space?—No, it would take up too much time to clear away movable desks and get them into position again.

6568. You would find a covered space in your playground more practicable?—Yes.

6569. In your concluding paragraph, when you use the word 'gymnastics,' I suppose you intend to mean physical drill of all sorts?—Of all sorts.

6570. That is to say, free movements apart from apparatus?—Yes.

6571. Perhaps you should have used the words 'physical exercise,' instead of 'gymnastics,' because by the word 'gymnastics' we generally understand apparatus implied?—I think that before physical exercise, or whatever you like to call it, will be of advantage to the pupils, and before pupils will take to physical exercise, there must be apparatus.

6572. Cannot a great deal be done in physical exercise with free movements?—Yes, I am referring now more to continuation classes.

6573. *By Sir Henry Craik.*—What training college were you at?—I was at no training college.

6574. At the University only?—Yes.

6575. And of course at the University there was no opportunity for training in physical exercise?—No.

6576. How did you learn the system?—At a special class, a special summer class.

6577. Under Article 91 (d)?—No, before Article 91 (d); at my own expense. *Mr G. Cheyne, M.A.* 29 May '02.

6578. Col. Cruden's?—Yes, Col. Cruden's.

6579. Where do the pupils come from to your continuation classes at Kennethmont?—Well, from farm service, all apprentice lads about the shops and smithy, and distillery workmen. Cruden's system. Continuation classes.

6580. I thought you said it was purely country; is there any employment of that sort?—Well, there is a distillery in the district which employs about a dozen hands.

6581. They are not large the continuation classes; only a small class?—Just about 20.

6582. You never attempted any physical instruction there?—Yes, I say that we had.

6583. Dumb-bells you had?—Yes.

6584. *By Mr Alston.* You get a whole holiday on Saturday?—At present I am attending a class under Article 91 (d) of the Code. Saturday: whole holiday desirable.

6585. I refer to the children?—Yes, the children do.

6586. Would it be an advantage to take half of it from them and put them on to some of this work?—I find in the summer time the children get very much run down coming to school five days.

6587. So it would not be an advantage. It has been brought before us by one witness that he would have no difficulty in recommending that there should be only a half holiday on Saturday. He thinks the children find it very difficult to know what to do, and they are glad to have something in hand, and their mothers particularly would be glad that they should be occupied. Now, if there were no other objection, perhaps you could get in some more physical drill on that day; but you would not recommend that?—No, I would not, because I find the children get run down enough; they need Saturday for recreation.

6588. And the teachers also?—Oh, well, the teachers would not be fit to go on.

6589. *By the Chairman.*—Have you much sickness in your school, as a rule, or do you have just your periodical turns of it; I mean have you had bad luck in that way?—Oh, no; not beyond the usual thing.

6590. Is your attendance pretty good?—Yes, about 87 per cent. last year.

6591. Nothing to complain about?—No, nothing to complain about: 87 per cent.

6592. What does your School Board think about this physical exercise; does it take any interest in it at all?—No; they leave it pretty much to the teacher. Grant.

6593. They do not take any interest in it more than any other subject, or perhaps not so much as any other subject?—It does not pay so well; the School Board likes something that pays.

6594. Then do you think it ought to pay as well, because that is a point that I should like to have your opinion upon?—If we are going to build the bodies of the children as well as the minds.

6595. You do not see any reason why on earth it should not be made as paying a subject as any other?—Well, if there is much time to be devoted to it, I think it is only fair play to poor parishes.

6596. As a matter of fact, as far as you have told us, and from what we have been able to judge, you yourself are largely responsible for the amount that is being done, and the efficiency with which it has been done, and you have taken a personal interest in the matter yourself?—Yes, I have always taken a personal interest in the matter.

6597. And you have done really more than you have been compelled to do?—I really do teach it all after school hours.

6598. You really do teach?—What drill is taught is taught out of school hours, that is after school, a quarter of an hour each day.

6599. That makes the children later in getting home?—Yes.

6600. Do you give them work to do at home?—Very little; a little memory work. Home lessons.

6601. Always the same; always very little, or

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sometimes more than at other times?—It depends on the children.

6602. It depends on the children?—If they are in senior classes, or they are preparing for any particular examination, they get a little more.

Leisure time.

6603. You say you like the children to get a day off on Saturday. Do you not think it is a good thing for them to have as much spare time out of school, or do you think so?—The more spare time the children can get in the fresh air the better.

6604. In the fresh air, but in the winter time, when they get home; if they have to walk two miles they get home about five o'clock in the afternoon, some of them?—Yes, about five.

6605. Then it is dark. You think it is better for them to have something to do during the remainder of the time they are out of bed than to do nothing?—Yes; I scarcely know what you mean.

6606. I rather want to put it from their health point of view. What did you do yourself when you were a child; had you to do work out of school?—No; I had to prepare lessons.

6607. When you got home?—Yes.

6608. You had to every day, practically?—Every day, practically.

6609. Did you like that, or did you think it was a bore?—I do not just particularly remember whether I thought it was a bore or not.

6610. Simply it had to be done; it was no use thinking about it?—It had to be done.

6611. You do not remember that, therefore, you have not paid particular attention to this point, now you have no longer to do it as a child; but you have to do it as a teacher?—What I think about home lessons is that in many families, poor families especially, a child might have to write an exercise sitting at a chair on his knees, and perhaps his younger brother coming in about, and pushing the chair away; there is no opportunity for it in poor families.

6612. You do make a difference between summer and winter. You do not see any harm in winter, but in summer you think it would be a great shame not to let a child run about as much as possible?—As much as possible.

The witness withdrew.

Mr J. Elphinstone, M.A.

Mr James Elphinstone, M.A., examined.

6613. *By the Chairman.*—You are M.A., certificate of first class, headmaster of King Edward Public School, Aberdeenshire?—Yes, my lord.

6614. Is that a country school?—Yes, my lord, purely a country school.

6615. And how many pupils; about what is your average attendance?—Last year it was 77; this coming year it will probably be a good bit higher.

6616. What is the total number of pupils?—100 on the roll just now.

6617. The Parish is the Parish of King Edward?—The Parish of King Edward, but it has two School Boards, one for one end of the Parish, what is called in Scotland a *quoad sacra*, which has a School Board for itself, separate from King Edward.

6618. But you are the *quoad ecclesiastica* school?—Yes.

Physical exercises: description.

6619. Would you read from your notes?—During the past year physical exercises have been given to the infants, the junior department, and the girls of the senior department, in weekly lessons extending an hour over all. That is to say, when one division had finished the next was taken. These lessons were mainly given by the assistant mistress (Art 79a), who has no qualification other than that got from her own training as a scholar and as a pupil teacher. The music was supplied by the pupil teacher. When new exercises were being set or a new drill introduced, the headmaster devoted considerable time to starting it, as well as laying down the lines to be gone on, and giving the assistant some instruction in the exercises.

Military drill.

The senior boys, and such boys of the junior division as were sufficiently advanced, got military drill in the playground, which is a large quadrangle, and well suited for drill when the weather is favourable. Exercises in drill of any kind in school are hampered by lack of floor space. All the desks are fixed. The space between the desks and the wall in the senior room is 12 feet, and in the junior room it is 9 feet. This space, of course, is largely occupied by the school furniture.

Cruden's system.

The physical training given is that taught in the Aberdeen Physical Training College conducted by Colonel Cruden and approved by the Department. The headmaster holds the diploma of the college, and has a certificate of efficiency in military drill. In order to the further development of such training more time would be required, but in rural schools it is difficult to see where such can be had. Perhaps, now that Drawing has been fairly established, the Department might consider whether the imperative time might not be reduced to one hour per week. The imperative time I mean for Drawing, which is at present one and a half hours. At present also Nature Knowledge makes considerable demands on the available time. That the Commission may see how rural teachers are hampered for time, I may be permitted to indicate shortly what has to be overtaken. The headmaster has to superintend and conduct weekly examinations of all the school. He has to teach all the classes of the senior division, with the help of a pupil teacher who gives assistance for two hours daily. He has to conduct the advanced department, whose stages of advancement often range over three years. The subjects taken are Latin, French, Mathematics, as well as English for Leaving Certificate, and Botany for the Dick Bequest Examination. The pupil teacher is taken from 8 to 9 a.m., and has to get suitable lessons with the advanced scholars. The examinations to be prepared for in addition to the merit certificate are, the Dick Bequest Examination, County Bursary, and Leaving Certificate, and also there is the local bursary examination for bursaries held in King Edward Parish. Some attention also has to be given to Scripture, which, of course, entails the finding of the time and adds in its degree to the day's work. There is also arising a desire on the part of parents for more attention to commercial subjects. In King Edward School, as yet, time has not been found for any manual training in addition to the Drawing.

As regards the continuation classes, the conditions of the Code were felt to be such as to make it difficult to hold them last year. The young men were unwilling to come out for a session of twenty weeks. Farm servants are slow to join before the term, as they do not know where they may be located. If the classes are started after the term, then the course cannot finish until seedtime is well in sight, and the pupils refuse to turn out. I understand that this obligation of a twenty weeks' session has affected several rural localities. In these districts, too, the only available instructor is the teacher, and such a long winter session is more than many care to face. The difficulty of a suitable drill hall does not arise in King Edward, which has a large parish hall, but even if a class for physical exercises or military drill were held under Division IV. of Continuation Code, Article 39 requires that as a condition of the payment of grants, attendance must be given at a class in one of the other Divisions for at least one meeting per week. This may help the other subjects, but does not help drill. Also pupils in an advanced department who could attend such a course with profit are excluded from earning grants under Article 46.

In conclusion the system of physical training as practised in my school seems to carry out in its degree the desires of the Department, but if full benefit is to be derived from the military drill given, School Boards

might be encouraged by special grants for outfit such as is supplied to the Boys' Brigade, on the same principle as grants are given by County Councils for apparatus, or grants might be given under Article 21 (e) of the Scotch Code. In all districts there are military instructors, in connection with the volunteer battalions, and under these, classes might be formed for teachers, under Article 91 (d) of the Scotch Code.

6620. You seem rather labouring under a press of work?—Yes, that is so in rural schools, such as mine.

6621. You seem to have rather—well, I will not call it actually a grievance, but some sort of ground for complaint?—The rural schoolmaster has a distinct ground of complaint at present; the rural schoolmaster is the hardest-worked teacher.

6622. We do not want to go into any complaints in general, but as to any complaints there are as to not having sufficient opportunity, time or whatever the reason may be, for physical training?—Quite so, my lord; well, all the rural schools which hold the Dick Bequest in Aberdeen, Banff, and Moray must maintain a certain standard, and the Department is taken bound to keep up that standard by the Education Act of 1872. The Scotch Education Department is taken bound to keep and maintain the standard in existence at the time of the passing of the Act of 1872, by Section 67 of that Act. Now, we in these three counties, who are teachers of Dick Bequest schools as we call them, have the higher work to do whether we will or not, otherwise we should fall behind what was the standard of education before the passing of this Act, and should not be eligible for the Dick Bequest.

6623. Are you on a permanent salary?—No, I have one-fourth of the Government grant just now; but that is the smallest proportion of Government grant I have ever received. Salaries are tending to be fixed more and more, but mine has not yet been dealt with.

6624. Yours has not been fixed?—Not yet.

6625. When you say the physical training given is that taught in the Aberdeen Physical Training College, conducted by Colonel Cruden, approved by the Department, do you mean the college is approved by the Department, or the physical training is approved by the Department?—The college is approved, and the course given by Colonel Cruden is approved as qualifying teachers to give what is called physical drill in school.

6626. It is the college, not the physical training necessarily; I mean the physical training is approved by the inspector?—Yes. And any certificate that Col. Cruden gives is accepted as a qualification.

6627. You prepare a time-table, do you not, for the inspector—Yes.

6628. And he approves the physical training put down in that time-table?—Quite so.

6629. Or does physical training not come into the time-table?—Oh, it comes into the time-table.

6630. You do teach it during school hours?—During school hours.

6631. And not after school hours?—Not after school hours. We may, if we like, but it must also be in the time-table; I take it during the time marked on the time-table. The course that Colonel Cruden has given has been accepted by the Department for many years.

6632. When you mention about the farm servants, the term, I suppose, is the 28th November you mean?—Quite so, the winter term.

6633. The removing term?—The removing term.

6634. And do you rather suggest that the Code might think a little more about the conditions of farm servants than it does?—I suggest that they should reduce the number of weeks required for a session.

6635. I mean you rather put forward an idea that the country schools are very different from the town schools?—Quite different.

6636. And yet the same Code obtains for both?—Quite so, my lord. Many of my lads would have to come several miles to a winter evening school, and they will not come twenty weeks for a whole winter, two nights each week; they might come if they lived in a rural village—a country village—but they will not come to a school for a session of such length, where they have long distances to walk.

6637. Have you much difficulty, as a rule, in your attendance?—Not more than ordinary country schools.

6638. Do you keep a school officer or anything of that kind?—We have a school officer, but he is the clerk of the Board just now; I do most of the officering myself by just urging regularity of attendance.

Boys after fourteen: physical training: compulsion.

6639. What I want to know is, supposing there was to be a compulsory attendance at physical training after the boys left school at the age of fourteen, would there be much difficulty in compelling the attendance, supposing such a thing were made by law?—Well, I do not think so; if you did not hold the class always in winter. You could get a good many to attend a summer course.

6640. But you would not be so likely to get young chaps to attend in the summer time, would you?—They will attend a dancing class.

6641. In the summer?—Oh, yes, they will attend a dancing class in the summer with great regularity, and, therefore, if it were compulsory, I do not see why they should not attend drill.

Continuation classes: reasons of failure when voluntary.

6642. Or gymnastics?—Or gymnastics; supposing it were gymnastics, I do not see anything to hinder them; but as long as it is voluntary, they will not come twenty weeks in winter or summer either.

6643. On account of the distance they have to come and the bad roads; is that the reason, or what is the real reason?—Well, in the winter on account of the bad roads and the distance. Twenty weeks is rather a prolonged session for a winter term; you see they shift.

6644. Say you began the 1st of December?—Then we are well into seedtime before the course ends.

6645. Your twenty weeks carry you till when?—It would carry us well on, with New Year holidays, to the end of April. Then the week of the seedtime has commenced, and the men flag, and we have no compulsion to make them attend. Therefore grants fail; the teacher has to be paid; and School Boards, not teachers alone, but School Boards, will not open classes at a loss.

6646. Are you aware whether that view has ever been represented; have you ever complained about it to your School Board?—That view has been put before my School Board.

6647. Have you ever remarked on that state of things?—Oh, yes.

6648. Do you know whether your School Board have taken any action in the matter at all?—My School Board wrote to the Department at the beginning of last session, pointing out the difficulty of starting a class at all last year because of the twenty weeks' session. I called the young men of the district together, and pointed out to them that we must keep open for twenty weeks, and they refused to come. They would not attend.

6649. So there was no class?—There was no class, but there was the previous year, when there was not a twenty weeks' session exacted, and I think we could get a nice class for physical drill.

6650. Do you teach the drill yourself?—Yes.

6651. Who taught it you?—I was taught at the Training College, partly in 1876–77, and then I had a liking for it and always did it in school, and when Colonel Cruden started his college I had a course from Colonel Cruden.

Time-table: subjects: Dick Bequest school.

6652. *By Mr Fergusson.*—Your school being a Dick Bequest school, you have more work than other teachers?—I would be compelled to have more work, for instance, than Mr Cheyne, who was in last, owing to having a Dick Bequest school. He need not necessarily go beyond the merit certificate stage.

6653. That is extra work, is it not?—If it is a Dick Bequest school it has to remain a Dick Bequest school.

6654. When do you begin school—nine in the morning?—Yes.

6655. And go on till four?—Yes.

Mr J. Elphinstone, M.A.
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6656. Well, all schools do that, do they not?—Quite so, but they have to provide a certain time-table for the advanced department, and it is a very much heavier thing. We cannot give so much time to the elementary work, you see we have to divide up all our day so as to give everything fair play.

6657. And you have more subjects to teach?—A great deal more to teach which has to appear in the time-table, and therefore must be taught.

6658. Is not the remedy for that having extra teaching staff?—Yes, sir, extra teaching staff, or the Department reducing the number of pupils for each teacher. At present, for instance, I am held to be able to teach fifty, being headmaster. If I got a certificated assistant, that is held sufficient for a further average attendance of sixty scholars.

6659. Yes, quite so; but you think you have got so much work to do that you cannot do anything more?—I do not see you ought to put in any more.

Extra time impossible.

6660. But still it would not give you any more work to devote an extra hour to physical training, if that extra hour were taken off what is now devoted, let us say, to reading and writing?—But, sir, we could hardly take off anything from any of the subjects.

6661. Why not?—I think all the time is required to do them efficiently.

6662. You could do it, but you think it would interfere with the efficiency of the other subjects?—Quite so.

6663. Is it not really that you have too much work, and you do not feel that it would be an advantage to take it off the other subjects and put it on to physical training?—We could not take off anything from the other subjects.

6664. Other schoolmasters do it, and say that they find the advantage of it; are you aware of that? They give more time than you do and do not find that it does any harm to the other subjects. You have never tried. You are afraid to try because you think it might interfere with the other subjects. Is that so?—No. I do not know how the other schoolmasters can manage to put in all the subjects we have to teach, with equal efficiency, and find time for more. Efficiency is a relative term.

Expert instructor.

6665. You have no trained instructor to help you?—No.

6666. Would that be of assistance if you had some one, not for all the drill perhaps, but to come now and again to your school and put your classes through their training, would that be of any use to you?—Oh, undoubtedly, if you had a well-qualified instructor, but I would be against any sort of instructor simply because he could teach drill or was a military man.

6667. We are talking not of a military man but of a competent physical training instructor?—I think it would be difficult to get any one other than a military man.

6668. Never mind about his being a military man; if he was a good physical instructor he would be of use to you?—He would be if we could find him.

6669. He would be if he was provided for you?—Yes.

6670. You never tried to get one?—Well, I once suggested that we should, but it has never been taken up.

6671. Was the expense too great?—I do not think the expense was too great. What I suggested was that the King Edward Board should apply for the caretaker of the Turriff School Board, who was a military man and could do it, but the matter was never pressed.

6672. They seem to put a good many duties on you. You are attendance officer?—Yes, I am practically all the attendance officer, that is to say, I am not the attendance officer, but I attend to the regularity of attendance myself mainly.

Teaching staff *plus* expert.

6673. *By Mr Shaw Stewart.*—We have had a good deal of evidence from town and city schoolmasters, and they are practically all in favour of the teachers instructing in physical exercise, with that work occasionally supervised and examined by qualified instructors. They would prefer to keep the teaching of the physical training in their own hands. Would you, as representing country schools, be in favour of that?—Most distinctly if we were qualified.

6674. The teachers should be qualified, yes, of course, before they can teach physical exercise?—Yes.

6675. But if it were obligatory that they should qualify, you see no objection to their taking the teaching?—I rather think they should.

6676. Even though the teaching should be much more frequent, at least half an hour a day we will say?—I do not know how they could find half an hour a day unless there is a considerable re-arrangement of the subjects.

6677. Still, if the Inspector were instructed to consider physical exercise as of equal importance with other subjects, time would have to be found?—No doubt, sir, of course, but then the whole trouble has been that our education is being said to be not so good, not so sound as formerly, and if we interfere with what we are doing just now, we do not help that, I do not think.

6678. Then shall I take it from you that before we can afford an extended system of physical daily training, something must be taken off the other work?—Yes, we must lighten the ship.

Time-t… must l… lighte… teache… supple…

6679. Lighten the time-table in other directions?—Yes, and I should certainly prefer that the teachers should do the training themselves.

6680. *By Sir Henry Craik.*—When you said you could lighten the curriculum in other directions, what subject do you think may be taken off from the instruction of the boys?—Well, sir, I have considered that, and the subjects are all so valuable.

6681. You think they are all so valuable, you are not willing to give up any of them?—Not willing to give up any of them.

6682. Unless you can give up something you cannot take up this physical instruction. Is there not another remedy for that, viz., that you should have further teachers?—Yes.

6683. Then you do not wish to lighten the curriculum, but you wish to have a more adequate staff to overtake your curriculum as well as the physical instruction?—Yes, I think so; I think that would do it.

6684. You say that yours is a Dick Bequest school?—Yes.

6685. A certain payment is made to you by the Dick Bequest Trustees?—Not to me directly, sir.

6686. Made to the School Board?—Made to the School Board, and paid over to me.

6687. Do the School Board pay, in addition to that amount, the full salary to their teachers, or do they use that grant for the lowering of the rate?—Well, sir, the Dick Bequest Trustees insist that if a school is to be upon their list, there shall be a certain fixed minimum salary.

6688. The School Board reduces that salary to the minimum, I presume?—The minimum is £135 for a school like mine. My fixed salary is £140; they keep pretty near the minimum.

6689. But you said they do not pay you by a fixed salary, they pay you a proportion of the grant?—£140 and one-fourth of the grant.

6690. That, I hope your School Board know, is not in accordance with the Code?—I have told them that they may expect that to be looked into.

Eveni… classes.

6691. As soon as we know it, we certainly shall look into it. Then you spoke of the evening classes, and you used a phrase in regard to them that was rather noticeable. You said the School Board will not open evening classes at a loss. Do they contemplate that these evening classes should be profitable?—I do not think, sir, that we can ever get evening classes from any rural School Board that I know of—I would not like to be too strong in my statements—that were conducted at a loss.

6692. You mean to say they will not spend any of their own money at all?—They are very unwilling to rate, if I may put it that way.

6693. That they will take the taxpayer's money or

the services of the teachers, but they will on no account spend any money of their own, even though they think these continuation classes may be very beneficial to the young men?—Well, I am afraid that is about what it is.

6694. That cannot be too clearly understood as the view of the public generally. If that is the view of the School Board, it cannot be too well understood what their view is?—The School Board are anxious that there should be no loss upon evening classes, and they arrange the salaries of the teachers as near as possible to prevent loss.

6695. About the duration of evening classes, surely if they are to have any educational effect, you would say that the normal length should not be shorter than twenty weeks, if possible?—Well, sir, I would rather go on this line, that I would make the normal session shorter, and I would make some arrangement so that there would be courses, say, of three years.

6696. But there are courses, say, of three years?—But then they are all voluntary; there is no compulsion in the matter.

6697. I only want to ask you again this question. Do you think that if a lad has neglected his education when he was under fourteen, that twenty weeks a year is too much to ask him to give as a normal thing to the continuation classes?—I do not think it is too much for the lad, but there is no compulsion.

6698. Very well, then; you said that your Board had communicated with the Department; what reply did you get to your communication?—I think the reply was that no exception could be made in the matter, so far as I can remember.

6699. But you know that the Code permits a certain exception if good reasons can be assigned?—I advised them, and I gave as good reasons as I could find.

6700. You have not satisfied the Department?—The reasons did not satisfy the Department.

Mr J. Elphinstone, M.A. 29 May '02.

The witness withdrew.

Adjourned.

THIRTEENTH DAY.

Monday, 9th June 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M^{c}CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Professor MATTHEW HAY, M.D., C.M., examined.

Prof. M. Hay, M.D., C.M. 9 June '02.

6701. *By Professor Ogston.*—Would you allow me to bring out some points which would emphasise the value of your evidence. You are Professor of Forensic Medicine (including Public Health) in the University of Aberdeen, and Medical Officer of Health for the City of Aberdeen?—I am.

6702. You are M.D. of Edinburgh?—Yes.

6703. And I think I am not mistaken in saying that you were the most distinguished graduate of your time?—Yes, I obtained the award which goes to the man who takes that position.

6704. And you have devoted the whole of your professional career to studies of questions regarding health?—Practically.

6705. And your professional career has extended over a certain number of years?—Since 1878; I took my medical degrees in 1878.

6706. The city for which you are Medical Officer of Health is a large city?—The population is about 160,000 at present.

6707. There is a very large number of schools in it?—That is so.

6708. Could you give us any idea how many scholars there are?—I think about 25,000 at present.

6709. Will you read over your notes?—I attend at the request of the Commission, but I do not pretend to speak from any special knowledge of the subject of physical training. As an officer of health I am, of course, thoroughly in favour of the extension of physical training among the youth of the nation, believing that it would distinctly promote the health of the people. In Aberdeen, chiefly owing to the enthusiasm and leadership of Lieut.-Colonel Cruden, physical training was early introduced into our schools, and is being carried out, with the available means, and under existing school arrangements, so satisfactorily on the whole, that there has been practically no occasion for my urging its necessity officially, or taking an active part in its promotion. Perhaps the educational institution in Aberdeen with least provision for physical training is the University, which, though possessing an excellent field for outdoor games, has not as yet a gymnasium, but under a building scheme at present in hand a good gymnasium is to be provided. Regarding the points enumerated in the memorandum for medical witnesses, I have to state:—

Physical training in Aberdeen.

Standards of height, weight, chest-girth, etc., of Scottish children.—I am not aware of any published records of the standards of height, weight, chest-girth, etc., for Scottish children; and so far as I can ascertain no exact records of this kind have been kept in Aberdeen. I may say I asked Colonel Cruden, who ought to know more about this than anyone else, as he is the head of the Physical Training College in Aberdeen, whether he had kept any record or anyone else had kept a record for him,

Measurements of Scottish children.

Prof. M. Hay, M.D., C.M.

9 June '02.

and he said that he regretted no such record had been kept. If the Commissioners are willing to make a small pecuniary allowance for the necessary assistance, I would be willing to undertake to procure among Aberdeen children the required measurements of say 100 children at each year of certain stated ages. Such measurements exist for England, the most detailed and complete of which are to be found in the Report of the Anthropometric Committee of the British Association, 1883, and preceding years.

Defects: physical and mental: proportion.

Proportion of physically and mentally defective children.—I am not aware of any reports on the proportion of physically and mentally defective children in Scotland, except of a very partial character. In the city and county of Aberdeen some years ago a young oculist, Dr Ferdinands, examined systematically some fourteen schools for defects of vision, and published the results in a thesis for the Doctorate of Medicine. The substance of the thesis was published in the *British Medical Journal*, September, 1891. By the courtesy of the author I am able to submit a copy of this paper. It

Eyesight.

reveals, I think, an unexpected proportion of vision defects. For example, 13·4 per cent. of the city scholars showed myopia, and 10 per cent. of the country scholars; 16·5 per cent. of all the children showed hypermetropia, the proportion among country children being about half of what it was in city children; also about 4 per cent. suffered from inflammation of eyelids, and there were several cases of other eye diseases, such as diseases of cornea. As to the other defects referred to in the memorandum, perhaps I may be permitted to give my general impression, based chiefly on my experience as physician of the Fever Hospital, where, during my tenure of office, I have had under treatment for scarlet fever, measles, and the like, about 10,000 children of all ages, drawn chiefly, however, from the working classes. From such experience, I believe the proportion of physically and mentally defective children in Aberdeen to be small, at any rate in any pronounced and noticeable degree. For I have not made a point of ascertaining the finer degrees of defects. For example, diseased ears and deafness are rare; tubercular glands and joints are not common, and are, I think, becoming more scarce; rupture is very rare. Diseased teeth are, however, fairly common. Deformities are rare—an occasional club-foot being perhaps the commonest form of deformity. I may add with regard to this that in Aberdeen a deformity, about which Professor Ogston knows very well, is rather common, flatfoot, but I would reckon it as among the finer degrees of defect. General weakness among quite young children—say from a month or two old to two or three years—is not uncommon, and dependent largely, I think, on improper feeding; but it is much less common in older children.

Country and urban children.

Country and Urban children.—I share the general impression that country children, especially of the working classes, are physically superior to urban children of the same class—I mean in general health and robustness. In Aberdeen, however, the difference is not, I think, great, unless in the case of children of the very poorest class. As to mental superiority, I am in doubt as to the actual facts. His Majesty's Inspectors of schools ought, however, to be able to give reliable information on the point. The results of the examinations for the leaving certificates of the Education Department should also throw light; and some interesting information might be procurable from the results of the Arts bursary competitions in the Scottish universities, for which, in Aberdeen, nearly all intending Art students enter. I would undertake to procure an analysis of the results of such competitions in the Aberdeen University, if desired. I may add to this that I have looked through our records in order to ascertain who took the first position in the Arts bursary competition throughout a number of years in respect of the place from which they happened to come, and I found that in the earlier years by far the largest proportion of them came from the country. In later years I think the town rather has it. But that, I do not think, is a sufficient comparison. One would require to go through the whole of the bursary list, and not deal only with the one at the top.

Prof. M.D

9 Ju

Impec or det tion.

With regard to the improvement or degeneration of children (town and country), what I have now to say is based very largely on statistical material in two papers, copies of which I have already sent to you. Taking all the children in Scotland of the ordinary school ages—say five to fifteen years—there has been a marked lowering of mortality since about 1875. In these papers which were published in the *Sanitary Journal* this is clearly brought out, though I regret that, as the papers appeared a few years ago, they are not now quite up to date. I have, however, in the copies of the papers submitted, written in some figures bringing certain of the tables up to the date of the last issued material. The earlier paper is on 'The 'Vital Statistics of Children of the School Age in 'Scotland,' and was published in 1890, and the later is on 'Mortality Rates in Scotland,' and was published in 1895. They both show that there was a great fall in the mortality among children of the school age after 1875, up to which time the mortality had been, if anything, increasing. By 1890 the mortality among children five to ten years old was only about 60 to 70 per cent. of what it had been prior to 1875, and the mortality among children ten to fifteen years old had fallen to 75 to 80 per cent. of what it formerly was —the reduction at both periods being somewhat more pronounced among boys than girls. The decline at both age-periods has been continued since 1890, so that during the last few years the mortality rate at five to ten years was less than a half of the rate in the quinquennium ending 1875, and the rate at ten to fifteen years was slightly over a half of what it was in the earlier period. It may be of interest to add that though the fall was mainly due to a decline in deaths from zymotic diseases, it was not entirely due to this cause.

It is also interesting to note that in so far as the decline was not dependent on zymotics, it chiefly affected boys. In other words, the diminished mortality among girls was almost entirely due to fewer deaths from zymotics; while in the case of the boys there was a distinct decline from other causes as well as zymotics.

These statistics also show that while up to 1875 the death-rate from lung diseases had been rapidly increasing, it has considerably diminished since. This is also true of deaths from nervous diseases among children from ten to fifteen years; though in the case of children of five to ten years there is scarcely any diminution. Deaths from diseases of the circulatory and urinary systems have rather been on the increase throughout the period dealt with in my papers as published, that is, to 1890.

Morta boys a

It is also of interest to note, with regard to children between the ages of five and ten years, that up to about 1885 the mortality, from all causes, among boys was always higher than among girls, though the difference was tending to decrease. Since 1885 the mortality has been greater among girls than boys. At the ages of ten to fifteen years the mortality among girls has, since 1860, exceeded considerably the mortality among boys, and the excess appears to be steadily increasing. In the quadrennium ending 1899 it amounted to nearly 15 per cent. The health of girls at the later school ages evidently demands greater care than that of boys. The difference is not unlikely to be largely due to the smaller amount of outdoor and physical exercise which girls undergo. That is my impression. It may also be of interest to observe that at the ages of five to ten years the groupof diseases which causes the largest numberof deaths is the zymotic, and that next to it comes the tubercular group, followed at a considerable distance by the respiratory and nervous groups. At the ages of ten to fifteen years the most fatal group is distinctly the tubercular, and more especially among girls, and the next most fatal is the zymotic. It is likewise an interesting fact that there is a decided difference between England and Scotland in respect of the death-rate at the school ages. Previous to 1860 there was apparently little difference, but since 1860 there has been a distinctly higher

Girls' at late ages.

Fatal groups ages t ten.

Ages t fifteen

Differe betwee Engla Scotla

mortality among Scottish children of these ages than among English, the difference reaching its acme in the decennium, 1871–80, when the mortality was as much as one-third greater among the former than among the latter. But the difference is not yet much diminished. Out of every 10,000 children of the age of five to ten years, in the period of nine years ending 1899, there died annually on an average 24 in England as against 33 in Scotland. At the ages of ten to fifteen years the corresponding numbers of deaths were 42 and 50 respectively. The difference may be in part due to the greater development of outdoor sports among English school children. I put that forward tentatively as an opinion. It is not of so much interest to you, but looking at the diagram in the paper, you will observe that in regard to children under the age of five, it is the opposite way about. The death-rate among children under five is higher in England than in Scotland; but after the age of five is passed, and on to fifteen, the death-rate in Scotland is decidedly higher. In Aberdeen itself there has been a large decline in the death-rate among children of five to fifteen years—a decline which has continued up to the present time. I submit a table extracted from my last annual report for the city, which shows that whereas in the decennium, 1866–75, the average annual death-rate among such children was 7·4 per 1000, it had fallen to 5·7 in 1876–85, to 4·6 in 1886–95, and in 1896–1900 to 3·5. That is to say, it had fallen from 7·4 in 1866–75 to 3·5 in the last quinquennium. The mortality rate is, therefore, less than one half of what it was thirty to forty years ago. At no other period of life has there been so marked a declension of mortality. The reduction of the zymotic death-rate has, no doubt, been a considerable factor; but it does not account for the whole of the fall. Various factors have probably been operative, but improved school accommodation, with improved ventilation, which is now mainly mechanical in the Board Schools, and in more recent years, the introduction of physical training into the schools, must, I think be assigned important places. Physical training was introduced into the Aberdeen schools, I think, about 1889. Comparing town children with country children, reference to Charts IV. and V. in my paper on 'Mortality Rates in Scotland' will show that in the quinquennium ending 1875 the mortality among children of five to fifteen years in the eight principal towns was about twice as high as among children of the same ages in what the Registrar-General terms the mainland-rural districts. Mainland-rural districts, I may mention, consist of all the rural parts, excluding towns and villages of 2000 inhabitants and upwards. These charts also show that these ages, together with the ages immediately under five, were those which, among all ages, exhibited the greatest difference in mortality between town and country. In other words, children are more susceptible than others to the physical influences of town and country. In the quadrennium ending 1889, or about fourteen or fifteen years later, there was still a marked difference in mortality between town and country children, but it had become considerably reduced, especially for children between ten and fifteen years. Among these, in 1871–75, the death-rates among country and town children were as 10 to 18 respectively; in 1886–89, they were as 10 to 13. In the quadrennium ending 1899, I have recently calculated that for the same ages they were also as 10 to 13. For the ages of five to ten they were in 1871–75 as 10 to 23; in the quadrennium ending 1889, as 10 to 17; and in the quadrennium ending 1899, also as 10 to 17. Judged by mortality rates there can be no question as to the decided physical improvement of town children. The mortality rates also show a considerable improvement of country children, and in the last ten or fifteen years a *pari passu* diminution with that of town children.

Does the work or exercise of country children dispense with the need of systematised exercise for them?—This raises the important question as to the necessity or benefit of systematised exercise, where there is ample natural exercise. I am of opinion that systematised exercise will even in such a case be a benefit to the majority of children, if not to all. Systematised exercise, as I understand it, is distinguished from ordinary natural exercise or work by the fact that it is so arranged as to bring into play, by different movements, the greatest possible number of the various muscles, so that all may be duly exercised and developed. I think it is possible to attach too much importance to this. The natural exercise, if sufficient in quantity, of a healthy child, will, I think, quite suffice for the maintenance of good health, though some muscles may, as probably Nature intended, remain to a large extent undeveloped. But some children are largely inclined to sedentary habits, and systematised exercise will prove in some degree a substitute for the natural exercise which they ought to be taking. Other children may have ill-developed chests, with defective expansion of lungs, which systematised exercises may materially correct. And as country children are often defective and slouchy and slow in their gait and deportment, all of them are likely to gain from the benefits in this direction. They will be able to cultivate a more rapid response between the brain and the muscular system, with a more precise ordering of muscular action, and acquire a smarter gait and bearing—all of which will, in later life, be of advantage.

Physical development and brain power; effect.

Does improved physical development entail improvement in brain power and in acuteness of the faculties?—In so far as improved physical development implies improved health, there can, I think, be no doubt as to the effect on brain power. It will help in securing the fit union of the *mens sana in corpore sano*. Good health also undoubtedly promotes mental clearness, and, therefore, acuteness. It has also to be kept in view that organised exercise of the muscles necessarily involves organised exercise, with a corresponding development, of the associated nervous centres and fibres which can scarcely fail to promote the acuteness of the faculties, although such promotion must chiefly depend on the purely mental discipline which the child undergoes in school. Although the degree of effect of physical development on brain power may vary at different ages, I think the effect is not a-wanting at any age.

Moral effect.

Does improved physical development imply improved morale? Does improved physical development promote morality?—I am of opinion that it does. Boys and girls who take little exercise are, in my experience, more likely to be the subject of exaggerated or perverted instincts. About that I am quite clear.

Physical census of children.

Is a physical census of children desirable, and in what ought it to consist?—Such a census would undoubtedly provide a more scientific basis than is possessed at present for dealing with the physical and mental education of children, and, if repeated at suitable intervals, would offer, along with the ordinary vital statistics of the Registrar-General, a fairly safe criterion of physical progress, if any. It could not, of course, be made without skilled inspection by medical men, and might be a somewhat expensive undertaking if attempted for the whole country. But it would not be difficult to sample, as it were, the children of different districts and classes. Of course, if regular medical inspection among schools were introduced, such census material would rapidly accumulate. The census should deal with the physical and mental formation or development of the child, such as weight, height, and other corporeal measurements; physical defects of sight, hearing, speech; physical deformities; pronounced mental dulness; and diseases, if these happen to be present.

Medical inspection most desirable.

Is inspection of the health of school children by a medical man necessary at present? Will it become necessary if physical training be increased and rendered more systematic?—I answer both questions in the affirmative. Medical officers of health have long held that every School Board should have the skilled assistance of medical men for the inspection of children even under present conditions, and it would be still more necessary if physical training became more general. Every school child should be medically

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examined at least once a year for physical defects. The first examination would, of course, be the most thorough. Defects of the senses would then be ascertained and corrected, if possible, or allowed for in subsequent school training. The presence of certain contagious diseases, such as itch, ringworm, and various hair diseases, would be ascertained, and steps taken to ensure treatment. I may mention that in Aberdeen these contagious skin diseases are very common among children, much more common than one would care to see them. The medical inspector would also at all times be available for any special examination required on account of suspicions of the occurrence of any ordinary zymotic disease in a child, or of infectious diseases generally. In well-regulated physical training, the training ought to be under medical supervision, both as to the fitness of children for it and as to the nature of the training. But for this purpose it would be desirable that the medical inspector should himself have undergone a course of instruction in physical training so as to be sufficiently familiar with it.

Girls' clothing.

Is special clothing required for girls undergoing physical training?—It is highly desirable so long as the present custom continues of girls wearing stays, and tying their clothes tightly round their waists. The full benefits of physical training cannot be obtained under such conditions.

Physical exercises: value of different forms.

What is the absolute and relative value to children at various ages of the different forms of physical exercise?—We must trust largely to ordinary exercise for children of all ages. To methodise all exercise, or even to methodise it largely, would be a sure way of making it distasteful and ineffective. This really goes without saying. But as I have already remarked in regard to ordinary exercise for country children, it does not meet every want of the body; and this is truer of town than of country children. For among the former, the facilities for exercise are more restricted.

Ordinary work.

Ordinary work, if outdoor, may, like ordinary exercise, keep the body in excellent health, but sometimes from its nature it may lead to very unequal development of the body, and even, sometimes, to positive injury. Witness the message boy, who has often to carry far too heavy loads in a basket slung over one arm, which, besides injuring the arm, distorts the trunk. Where the work is indoor, and mainly sedentary, physical exercise in one form or another is imperative.

Walking and running.

Walking and running.—Walking is excellent, if undertaken with something of an object, and especially if it requires somewhat more exertion than is necessary in walking at an ordinary pace on the flat, as, for example, in mounting a hill. The ordinary constitutional along an ordinary road, especially within a town, is often far from refreshing, though doubtless much better than no exercise. The mind should, if possible, be pleasantly occupied, as in conversation with a companion, or in the active observation of nature, or, as in hill-climbing, in the contemplation of beautiful scenery.

Running — I mean sustained running — affords excellent exercise for boys above twelve years of age, but where the runs are long or are fast, they may do much and permanent harm to boys with a weak heart. Having regard to this danger, which is not altogether to be obviated by previous medical examination, I am rather opposed to the very long runs so much encouraged in some public schools. The exercise of games is, I think, much safer and more natural where, as in cricket or football, there is no call to continuous running.

Games.

Games should be encouraged at all ages. I refer especially to outdoor games. All fit children and youths—male and female—should be compelled to take part in games and sports. Most persons do so with great avidity, for there is no form of exercise, which, on account of the elements of rivalry and liveliness, are so liked by young and old. But there are always a few who are indifferent to games unless distinctly encouraged to take part. A liking for games acquired in youth, especially if accompanied by some success, is likely to continue throughout manhood.

Musical drill.

Exercises of trunk and limbs. Musical drill.—Very useful at nearly all ages, but especially up to fourteen years. The exercises may be continued at later ages, if necessary. They are, sometimes, almost the only exercise available in a school, when outdoor games are prohibited by the weather. When accompanied by music they form a pleasant relief to the tension of ordinary school study. Besides promoting general physical development, they can be used to correct defects of development, as weak chests, etc.

Gymnas

Gymnastics should, I think, unless in a mild form, be principally confined to youths who have passed the age of thirteen or fourteen. Gymnastics should always be under skilled supervision, and should not be undertaken, as a rule, without previous medical examination—at least in any case of doubtful fitness.

Militar

Military Drill.—I approve of this for boys of fourteen or fifteen years, and upwards. Not only will it assist deportment, and increase readiness of muscular response, and inculcate lessons of deference and obedience, but it will teach every fit lad the use of firearms, which may afterwards be of national service. But the mere drill should not be too prolonged so as to be tiresome, and actual shooting, in which the boys would be certain to take keen interest, should receive a prominent place.

Self-def etc.

Self-defence, boxing, shooting.—Fencing forms an interesting and exciting exercise, and quickens the eye, but it is, physically speaking, a one-sided exercise largely, and does not equally develop both sides of the body. Boxing, though a good test of endurance, tends to round the shoulders and flatten the chest.

Swimm

Swimming should be encouraged, but should not be obligatory, and should be under supervision, not only to prevent accidents, but also to regulate the length of time in the water. Harm is not unfrequently done by a too prolonged stay in a cold swimming bath. I had recently occasion to notice that, particularly in Aberdeen.

Benefits dangers

Does physical training in the healthy prevent eye disease, joint disease, spine disease, tuberculosis?—Yes, to some degree. The paper of Dr Ferdinands already referred to shows that defects of vision are less frequent among country children—that is, children in the full enjoyment of outdoor exercise—than town children. Everything which promotes good health will tend to prevent tuberculosis and joint diseases, which are often of tubercular origin.

Does physical training, in weaklings or those predisposed, cause or favour rupture?—Rupture?—I think not, unless where rupture is already imminent, and exercise too violent. Heart disease?—No, unless where heart previously weakened, or exercise too violent. A weak heart may be greatly strengthened and improved by judicious exercise. Joint and spine disease, tuberculosis, eyes?—No, but the training should be under medical supervision. Fractures, dislocation, or other injuries?—Practically, no. Brain and ear disease?—I think not, but there should be medical supervision or advice.

Exercis games, military etc., sh obligato

Requirements of present race of children?—I think that exercises, games, gymnastics, and military drill should, according to age and sex and physical fitness, be made more or less obligatory for all young persons. First-aid and ambulance instruction would, no doubt, be of advantage, but I should hesitate to insist upon it, if it were to burden too much the work of school life. Considerable means of instruction already exists for this among persons, such as railway servants and policemen, who are most likely to be in contact with persons requiring first-aid.

Advantages of instruction in self-defence, boxing, shooting.—I have already referred to the advantage of shooting, with a view to national defence.

Swimm benefits.

Benefit of instruction in swimming.—It ought to be an advantage, but it is often said that more persons are drowned who can swim than those who cannot, because of the greater temptation to the former to enter water. But even if this were true, I would approve of every person being taught to swim.

Physica training

What system of physical training is best?—I am not an expert, and cannot give a well-informed opinion.

I would only say that the system should be recreative and attractive as well as physically educational, that the attainment of good health should be its principal aim, accompanied by an all-round physical development, and that it should be carried out whenever possible in the open air, and at all times in thoroughly well-ventilated rooms.

Respective merits of outdoor and indoor training.—I would prefer all training, if the climate permitted, to be out-of-doors, so that the lungs would be filled with pure and unpolluted air, especially as during the training the lungs are more active than usual. Pure fresh air is Nature's principal tonic, and its value was never more fully recognised by medical men and sanitarians than at present. If it can cure phthisis and kindred diseases, it will be still more potent in preventing them.

Adequacy of schoolroom and playground.—All depends on their size and condition. Usually the schoolroom would be inadequate. A room for physical exercise can stand to be much more freely ventilated than a room for teaching, and those who are undergoing the exercise can stand far more of wind blowing in upon them when they are undergoing physical exercise than they can when occupied with their ordinary school lessons. Exercise rooms or gymnasia ought, as a rule, to be specially constructed with very freely ventilated roofs. Playgrounds are usually too small for proper outdoor games. Playing fields should be available for all schools, or combinations of schools. For schools in towns these fields may have to be got at some distance from the town.

Precautions in a gymnasium.—Every gymnasium ought to be under the supervision of a properly-qualified instructor.

Physical training of girls.—There is no reason why they should not undergo, though in moderate form, every variety of physical training to which boys may be subjected, except, of course, military drill. I highly approve of the introduction (already witnessed) into some secondary schools for girls of almost every form of outdoor exercise. There is no reason to believe that vigorous outdoor exercise will do girls any harm. On the contrary, it is the opinion of many doctors, who are expert in female ailments, that the difficulties of puberty and subsequently of maternity are much more easily surmounted by females who have had abundance of physical exercise. The difference between town and country women in the matter of ease of child-birth is well known, or between women in regular physical work and those who are not.

Proportion of time devoted to physical training.—I will only remark that for young persons, consistently with the proper performance of their ordinary school work, there can scarcely be too much of physical exercise. How much of this should be of the nature of organised physical training is more difficult to answer—perhaps an hour or half an hour three times a week, or daily. I would prefer a little every school day.

Dietary.—With very few exceptions, which could be attended to through the usual charitable channels, children are so well fed nowadays as not to require any special dietary on account of physical training. I am keeping in view what I know of the Aberdeen children.

Results of physical training in secondary schools and universities.—Such training does not, in my experience, interfere with intellectual development or progress, and I have no fear of its doing so. On the contrary, by materially assisting in the maintenance of health, it will rather promote intellectual progress, although I must admit that too many of our best students in the Scottish universities are inclined to neglect it. But this is mainly due to want of proper facilities and of proper organisation. It should not, as at present, be left to the students themselves.

6710. Would you allow me a few questions in corroboration and in amplification of the notes you have just read? You mention here that there has been an improvement in the mortality of children since certain dates; can you connect that in any way, more than you have generally done in the second page of your evidence, with the improved school arrangements?—You mean the improved school arrangements under the Education Act, more particularly.

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6711. Under the Education Act, yes?—All I can say is, that the Education Act came into operation in the early 'seventies,' and that up to 1875 the death-rates among the children of the school ages remained unaltered, in fact, if anything they were rather going up till 1875; but since that time they have come down very considerably; they have fallen to about half of what they used to be, and I think it is not unlikely that the better schools in which the children are now placed have something to do—and perhaps a great deal to do—with this lowering of the mortality.

6712. The other influences, such as the increased wealth of the population and the better sanitation in regard to houses, would not entirely, in your opinion, explain the improvement in the mortality?—It would be very difficult to answer that definitely. Of course these must have had considerable effect. There is no doubt that the standard of living has improved immensely during the last thirty to forty years. The wages of the working classes now are a great deal higher than they used to be; in Aberdeen I should say they are about from 50 to 60 per cent. higher than they were forty years ago, and the purchasing power of money for ordinary food stuffs has been increased.

6713. Well, you think that the improved sanitation in schools, and the conditions of children's schools, have been a contributing factor?—That is my opinion; I think it cannot help having had some considerable effect.

Curriculum: work during day well proportioned; during evenings injurious if heavy

6714. You do not think that at present the school curriculum injures children in Scotland? You do not think that the amount of mental culture is too great for the strength of the children?—Well, I am inclined to think that in some cases there is rather more pressure than there should be.

6715. Would you say that the present curriculum of study is excessive in regard to the health of the average child?—Of course a good deal depends upon how it is carried out in the different schools; but speaking of Aberdeen, I have certainly heard it said by persons of good sense with children at school that they thought that the children were being rather hardly pressed, particularly in the way of evening work. It bulks more largely now than it used to—at any rate in my school days; and so far as there is much heavy evening work, I think it is rather a mistake and against the health of the child. But as regards the work during the day, it seems to be well proportioned and not excessive.

6716. And that evening work to which you refer would be very contributory to the weakness of the eyesight that you refer to in your evidence?—Yes, too much of it.

6717. And might also affect the bodily condition, such as producing flat-foot and so forth, though less directly?—Well, it might under certain conditions.

Physical development beneficial regarding brain power and morale.

6718. In your evidence, under the heading 'Does 'improved physical development entail improvement 'in brain power,' I think the general effect of your answer there is that you consider it does?—Yes.

6719. That physical development does distinctly improve brain power?—That is so.

6720. And in regard to the paragraph below—a very important one—regarding morality and morale, your opinion is very clear upon that point; that it is beneficial in regard to those two subjects?—I have no doubt about it at all.

Medical inspection necessary: suggested scheme.

6721. Then taking the next paragraph, the physical census of children. I suppose it would be a very expensive thing to take such a medical census and periodical medical examination as is referred to?—It would, but of course it would be unnecessary if medical men were appointed in connection with School Boards to do the ordinary routine medical inspection required by the School Board. This material would

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accumulate in their hands, and would form the material for a census without having a special census.

6722. And you think it absolutely necessary that if physical training is introduced and elaborated in the Scottish schools, some form, at any rate, of medical examination and supervision should be instituted?—Yes; I think so. It is even necessary now, without that physical training, and it would be still more necessary if there were physical training, that is, if the physical training were not to do harm in certain cases.

6723. Does your experience as a medical officer of health lead you to see any way by which it might be carried out at a reasonable cost? Is there any public medical officer, say, for the sake of argument, medical officer of health, or other, who could be charged with this as an addition to his duties, with an addition to his salary, and without injuring his present work?—Well, I think that most medical officers of health are already so fully occupied with their ordinary duties that they could not do more than merely undertake the supervision of the medical inspection of schools. The actual inspection would require to be performed by medical men specially appointed for the purpose, or, perhaps, by some of the ordinary medical practitioners, who might be attached to the several schools and make the necessary inspections for a modest remuneration, while permitted to make their daily living by ordinary practice.

6724. Probably at a small cost?—I feel sure in Aberdeen you could get medical men in town to undertake this work at a comparatively small cost under some central supervision.

6725. And in remote country districts some similar method might, you think, be found?—I think so.

Girls' clothing.

6726. The next point is a minor one. In your evidence, under the question of 'special clothing required for girls,' could you suggest what special clothing could be required of such a practical shape that it could be used in Board Schools?—All I meant was that the clothing ought to be loose, like ordinary boys' clothing very much. As to how the clothing is to be constructed, that is, perhaps, rather a matter for the dressmaker than for me; but I apprehend no difficulty.

6727. But you think that perhaps a moderate reform in the system of clothing at present used, or perhaps an improvement in regard to the clothing as at present constructed, might meet all the difficulty, without providing special suits for everything?—Oh, I think so. I think the reform is desirable, not only for physical training, but at all times, for the general life of the girl. It is desirable that she should not be wearing, at any rate in these earlier ages, whatever she may do later on, clothing which would constrict the body where vital organs are contained.

6728. And the question of propriety would not enter in if girls had exercises suitable to their sex and age?—No; I do not think so, not with suitable clothing.

Physical exercises: system.

6729. The next point is as to the absolute and relative value of the different forms of physical exercises. We have had a witness before us who advocates, of course, the introduction of a systematised physical training, but insists that on purpose to get the utmost benefit of it it must be at times pushed to excess, that exertion must be carried so far as to reach the limits of tolerance, that a physical training by which the limits of endurance are not reached is not of the same benefit as one where exertion is often forced?—Well, I think there is something in that.

6730. Would you approve of that as a principle moderately applied?—Yes, moderately applied. I think, for example, that one of the unsatisfactory effects of ordinary walking as a means of physical exercise is because one has not one's tolerance in this respect sufficiently pushed. Unless the exercise puts a certain strain upon one, and increases rapidity of respiration or the depth of it, and also increases the heart work, I think as a rule one does not get the fullest benefit out of the exercise.

6731. So that a reserve fund of power, as it were, should be cultivated by all good systems of physical exercise?—Yes, in moderation.

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6731A. The next point is in the next paragraph, headed 'Exercises of Trunk and Limb Musical Drill.' We have had conflicting evidence regarding that, some advocating that physical training should be carried out without musical drill, that otherwise it does not confer its fullest benefit, and other witnesses have asserted that musical drill is so advantageous, fits in so well with physical drill and renders it more easy, and altogether more applicable, that it is a necessity; can you give us any opinion on that point?—Well, as I have already said, I am not an expert upon these matters, but my feeling would be that musical drill has a distinctly advantageous place, particularly in the physical training of the very young. It adds an interest to the training which otherwise it might not have. Of course I quite understand its disadvantages in making the exercise more mechanical in a way, and with less mental attention being given to what is being done, but I think the musical drill ought to be included in the physical training, particularly of the younger children.

Swim girls:

6732. There are three other questions. Should girls be taught swimming by a man or a woman?—I think, preferably by a woman, although I do not see any great difficulty in their being taught by a man, especially when large numbers are being simultaneously dealt with.

Weak medic inspe neces

6733. The second question refers to the effect of physical training in weaklings or those predisposed, causing or favouring rupture. I suppose that some of the diseases that you mention there, like heart and rupture, are capable of being found out by an ordinary teacher?—That is so.

6734. There are some forms of heart disease and some forms of rupture that would require a very skilled medical man?—Yes, and even then he might not be able to notice the mere imminence of these things and the unfitness of a child, for example, for severe exercise who happened to have a weak heart. It might be made evident only after the exercise had been commenced; but if a medical man were charged with the supervision of a school, any unusual breathlessness, of course, would be pointed out to him by the instructor, and the child would be medically examined, and if the heart was not exactly what it should be, the exercise would be regulated accordingly.

Girls physi traini perio puber mater opini

6735. And that strongly enforces your opinion that some form of medical supervision will be necessary?—Yes, I regard it as absolutely necessary if considerable harm is not to be done in certain instances.

6736. The last question is one which you have answered in your notes, but I ask it again for the sake of emphasising your opinion with reference to the physical training of girls; you do not consider that physical training properly applied, that is, without excess and suitably regulated, does any harm to girls at the periods of puberty and maternity?—No; if the training has been begun before these critical times have been reached, the general strengthening of the body and the muscles which results from it is rather an advantage when these times come, and enables the girls to pass through them more easily—I refer especially to the period of puberty—and to continue the exercise subsequently without disadvantage to themselves. On the other hand, if the physical training is only started at or after puberty, and with bodies that have not been braced up by previous exercise, there may be some chance of doing harm; but if it is begun early it is quite different, it rather improves their chance of getting through these periods satisfactorily.

6737. I suppose you have heard that some medical men hold a different opinion to that?—Yes, I know that some do.

6738. But still you consider that they are in error in some way in regard to the conclusion with reference to physical drill properly regulated?—Yes, I think the error probably has arisen in the way I have just suggested. If a girl is asked to undertake, for the first time, rather heavy physical exercise about the age

of puberty, when the organs are rapidly developing, then there is some chance of harm being done; but it is otherwise if the girl has not been previously undergoing physical training, and having her body, as I have already said, braced up for what is going to come later.

6739. But I suppose the very existence of such critical periods in regard to girls would still further render it desirable that some medical eye should be watching over a national system of physical training?—That is so. May I recall a question that you asked me a short time ago. This would no doubt rather favour the appointment of female instructors for the physical training of girls, especially of those who had reached the age of puberty, because they are much more likely to be made acquainted with complaints—if girls had any complaints to make—than a male teacher would be.

6740. I suppose there are female instructors in almost every Board School in Scotland?—Oh, yes, for the younger children.

6741. Then in the country schools there are generally female assistants?—You mean female teachers for all purposes?

6742. Female teachers?—Oh, yes, practically all, I think.

6743. So that the machinery is there in regard to that?—Yes, if the female teachers happen to know themselves something about physical training.

6744. Then I would like to ask you to guide us in regard to this: suppose we mix, as you advocate, mental training and physical training, what are we to aim at, where are we to stop; what is to be the standard of health that we aim at in the balance between the two; are we to make athletes, for instance, on the one hand, or are we to make book-worms on the other; if not, could you indicate what the line of proper balance between the two is?—Well, of course there is no necessity for making athletes of school children; what one wants to do is to give them enough of physical exercise to secure that their health would be maintained at a proper level, and also that they would acquire that physical smartness—that proper deportment which one likes to see in young people, and which, let us hope, they would retain in later life.

6745. And a proper mixture would produce a state of health in a typical individual beyond which physical training should not be pushed?—That is so.

6746. Athleticism you would disapprove of as an aim in a system of physical training applied to the whole country?—Oh, certainly I think there would be no advantage from it; on the contrary, it might seduce boys and girls away from their ordinary school work too much.

6747. Do you think that systematised physical training at an early age and continued would diminish the tendency of lads to hooliganism and rowdiness at a certain age?—I think so.

6748. One of our witnesses said that he considered that by having exercise properly directed, the tendency to run to excess at the period after school is left would lessen?—Well, I think so; they would have acquired certain habits which probably would not leave them. I mean if they had been trained in outdoor sports, and even in certain indoor exercises, they would in most cases feel for some time afterwards an appetite for these things which would, no doubt, be satisfied in legitimate ways.

6749. Referring next to country schools, you have seen, I suppose, many of them in the poorer districts of Scotland?—Yes, I have seen several of them.

6750. Do you know of any in which physical training in some fashion could not be carried out?—No; there would be no difficulty about it, provided some of the teachers were familiar with physical training.

6751. Even the roughest of playgrounds could be utilised as at present for some form of physical drill or physical training?—Certainly.

6752. And the question of bare feet is not prohibitive?—Not at all; not so far as I know.

6753. And the question of weather, even in the most rainy districts of Scotland, is not prohibitive of a reasonable amount of exercise—training carried on even partially out of doors?—Not unless it is very wet at the time that the exercise is being taken.

6754. But from the beginning of one year to the beginning of another enough could be obtained in even the most remote and most inclement?—Oh, that is so—an abundance of it.

Girls: gymnastics.

6755. Do you approve of gymnastics for girls?—I think in moderation they are also good, but they should not be taken too early, at any rate in any violent form.

Saturday: one whole day as holiday: two half holidays in week favoured.

6756. From a point of view of health, do you think the Saturday holiday—complete holiday—is a necessity, or might part of it be given up for physical training?—Well, I think that apart from the Sunday, one day in the course of the week is wanted, whether you give it in one whole day, as on Saturday, or as a half day in the middle of the week and another half at the end of the week, as is the custom in some schools; but either plan works well; perhaps I rather favour half a day in the middle of the week and another half day at the end of the week.

6757. You think it would be no harm to the population if part of the Saturday were given up to physical training, the loss being counterbalanced by a half holiday in the middle of the week?—Well, I would look upon the physical training as a good deal of a holiday for the children—a relaxation from their routine work, which is, after all, what a holiday chiefly means.

6758. We have had the other view advocated, I may say, that a Saturday holiday is an absolute necessity for the whole of the population. I wish to know your opinion regarding it?—If it is meant that there should be a whole holiday in the week entirely free from physical training, as opposed to a holiday which might for an hour or two hours be occupied with some form of physical training, I cannot say I have much sympathy with this view, if there would be difficulty, as I apprehend there might be, in getting a sufficiency of physical training in the other days of the week.

Time to be allotted.

6759. You do not profess to speak as an authority on the question of what the proportion of physical training to mental training should be, but could you tell us whether half an hour per week is too little?—I think it is too little. I think there ought to be more than that.

6760. A little every day?—Yes, I would prefer a little every day.

6761. Do you think that ten minutes every day would be too little to be of any service?—Ten minutes would, of course, do good, but I think it ought to be twenty minutes, or half an hour if possible.

Cripples and incurables.

6762. The last question I have to put is, can you give us any help in regard to the application of physical training to cripples and incurables. Is it likely to be attended if properly applied with benefit to cripples?—I think so; of course it depends a good deal upon what the crippled condition is due to, but I think in most cases it would do good after the disease has become quiescent. Of course if the disease producing the crippling is still active, one could not, as a rule, venture upon anything which would be ordinarily called physical training.

6763. And could you tell us whether there are any children that come under the category of so-called cripples or incurables to whom physical training might be beneficial?—Well, I am not quite certain of what you mean by incurables.

6764. Say those in the incurable hospital?—Do you mean tubercular incurables, for example, or not?

6765. No; paralytics, for instance?—These would, of course, be benefited to some extent by a certain amount of physical training or physical exercise, in so far as it could be brought about by certain suitable methods.

6766. Do you know whether any such children receive any such training at present?—Not that I am aware of, except medically; but I have made no inquiries on the point.

6767. But if they do not, do you consider that they

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have a right to it?—Oh, I think so, if it would benefit them, and improve their health; I think they have a right just as much as the other children.

Mortality among children.

6768. *By Mr M'Crae.*—You make a very important distinction of the period from 1875 onward, and you say that the mortality has greatly diminished among children from five to ten years of age?—Yes.

6769. But that difference is not so distinct in Scotland as in England; in Scotland the critical period is evidently from five to ten, because in England there was a difference—24 died in England to 33 in Scotland?—Yes.

6770. But in children from ten to fifteen years in that period mortality is very much decreased?—Yes.

6771. Can you give us any further reason why there should be the decrease amongst the older children?—I think I said they had decreased in both; both at the ages of five to ten, and at the ages of five to fifteen.

6772. 'Though in the case of children of five to 'ten years there is scarcely any diminution'; that is in the first page of your evidence; you are speaking more especially of lung diseases and nervous diseases?—That statement is entirely with reference to nervous diseases, and you will find a special chart in my paper relating to these diseases, and it is only with regard to them that I say that there has been scarcely any diminution at the ages from five to ten, though there has been a diminution at the ages of ten to fifteen.

6773. Well, that is exactly the point I am leading up to. Do you think that the reason for that might be that what is commonly known as the system of cram has had any effect on the children from five to ten, though it had not had the same effect on children from ten to fifteen?—No; it would be rather the other way about. I think the cram begins at ten, and continues until the close of school age in connection with preparation for various examinations, Leaving Certificates, University Entrance Examinations, and the like, and when I prepared the chart for nervous diseases I was quite prepared to find from all that had been said about the effects of cramming nowadays that at the ages of ten to fifteen the mortality had gone up. On the contrary, it has gone down somewhat, whereas, at the younger ages, where cramming can hardly be said to come in, it has gone up.

6774. I am speaking of the Code as it previously existed; modifications have been made on it since?—Yes, from time to time.

6775. Then the same difference in the diminution of mortality does not apply equally to girls and to boys—No, that is so, speaking generally, of course, with regard to all kinds of disease.

Decrease of mortality: partly due to more physical exercises.

6776. Then would that not seem to show that notwithstanding the improved sanitation and improved ventilation in schools the decrease in mortality could not be attributable to that so much, perhaps, as to the increase in physical training?—That is a point. I think you are right in saying that one might legitimately infer that as boys had been taking more physical exercise than girls during that time, the greater lowering of mortality amongst the boys had been to some extent brought about in that way.

Differences between England and Scotland.

6777. Then with regard to the comparison between England and Scotland, would you say that the difference was entirely the result of different conditions, or would you go further back and say that it was the difference in the physical condition of the parents in the two countries?—I do not know; it is a very difficult question to answer. The difference is a very striking one. What the causes are it is very hard to say. If there had been a general difference in the mortality at all ages, one might have put it down to some general difference in the mode of living—to the supposed plainer feeding of Scotch people; but, as matter of fact, the total death-rate at all ages in Scotland has been practically the same as in England. The death-rate from all causes in both countries went on for a number of years without any decrease, until in 1876, or thereby, when it began to fall in both countries, and the rate has almost always been about the same level in each country; nevertheless, you have these remarkable differences with regard to the mortality among children, whatever be the particular cause.

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6778. Then I notice you say between ten and fifteen years the mortality among girls has since 1860 exceeded considerably the mortality among boys, and the excess appears to be steadily increasing?—Yes.

6779. Among children from five to ten years, since 1885 the mortality has been greater amongst girls than boys?—Quite so.

6780. Well, you think that might be mitigated by increased physical training for the girls?—Yes, I think so. Girls have not participated to the same extent as boys in the greater attention given in recent years to physical exercise, except where the physical training has been fairly well organised, as, for example, in the Aberdeen schools.

6781. Then, speaking generally, are you against home lessons?—No, not altogether. I do not think that children would get on very well without a certain amount of home lessons; but I think sometimes too much is exacted of them in that way.

6782. You think they are excessive?—Yes, I think they are occasionally excessive, especially for the younger children.

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6783. Then with regard to the question of compulsion, do you think that the parents would willingly submit to a certain amount of compulsion with regard to physical training?—Oh, I think so, especially if it were done under medical supervision, and they knew that some responsible medical man would examine the child from time to time, and see that the training was adapted to its strength and physical fitness.

6784. *By Mr Fergusson.*—What exactly is myopia?—Myopia and hypermetropia are defects of vision at a distance—myopia at a near distance, and hypermetropia at a long distance.

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6785. You have told us of the change that has been taking place in the death-rate of Scotch and English children since 1860?—Yes.

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6786. Can you account for that in any way; has the English mortality decreased or the Scotch increased, or how does the difference come about?—You will see it represented graphically in this diagram in my paper on the vital statistics of children of the school age.

6787. The mortality amongst Scotch children began to increase after 1860, did it, or was the English mortality diminished?—The one began to fall and the other began to rise somewhat.

6788. The Scotch began to rise and the English began to fall?—That is so.

6789. And you do not know how to account for that?—No, I really do not know how to account for it, unless one assumes that there was much more physical exercise among English children than amongst Scotch children. I believe that used to be true, at any rate with regard to the larger public schools. It has often been said that the English public schools differ very much in that respect from our Scotch schools, with certain exceptions, just as our universities differ very much. In our Scotch universities very little indeed is made of athletics, whereas, as everyone knows, in Oxford and Cambridge athletics occupy a very important position.

6790. That affects such a very small number that it would have very little influence on the statistics of the whole of the children of the country?—I am putting that forward as exemplifying the different feeling with regard to athletics in the two countries, which may extend down to the ordinary school children—the fact of the importance attached to athletics in the universities and higher schools of England.

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6791. Then as to the inspection of school premises, is it part of your duty as medical officer of health to inspect such buildings?—That is so.

6792. There seems to have been some misunderstanding about that; I understand there are special instructions to medical officers of health to inspect all school premises and report on them; is that so?—You mean from the Local Government Board, or where?

6793. From some official source?—Well, it is part

of our duty under the Public Health Act to inspect all such buildings from time to time.

6796. Was there not a special circular issued about the burghs and towns?—I am not certain whether we received a special circular about it or not.

6797. At any rate you did it?—We invariably do it as it is wanted from time to time.

6798. The system of physical training that, as I understand you, you would like, would be one designed to counteract any physical defects?—Yes, in so far as these physical defects exist: but for others, again, where physical defects do not exist, it would be simply a question of general physical training.

6799. But in your scheme of training you would like particular attention to be paid to children that had any particular defect?—That is so.

6800. That is the design of the Swedish system, I believe?—Yes.

6801. Have you ever known any harm in Aberdeen where the children had a good deal of physical training without medical supervision; have you ever known cases of harm being done?—Well, I may mention that I have put the question to the Clerk of the School Board in Aberdeen, and to the headmaster of Gordon College, and I put it also to Colonel Croden, whose name I have referred to in connection with physical training in our city; and they all say that they are not cognisant of any harm resulting from the physical training that they have had in Aberdeen; but at the same time I think I have myself seen amongst children who have been undergoing what I thought to be rather heavy exercise for them certain effects which were a little unsatisfactory, but I have seen no very bad effects.

6802. You say, 'with very few exceptions, which 'could be attended to through the usual charitable 'channels, children are so well fed nowadays as not to 'require any special dietary on account of physical 'training.' In Aberdeen is any official notice taken of underfed children in the schools?—I do not know that there is any actual official notice taken, but there are agencies in Aberdeen for the feeding of starved children, and no doubt a teacher would call the attention of the officers of these agencies to the fact that the children were underfed, and try to secure better feeding for them.

6803. May I say that you think it is desirable that attention should be called to children who are underfed; they should be dealt with, if possible?—Undoubtedly, and some means should be provided for dealing with them where agencies do not already exist; but in Aberdeen the number of underfed or badly-fed children is not large.

6804. Have you formed any opinion as to the possibility of having compulsory physical training for lads from fourteen to eighteen?—Yes. I think physical training should certainly go on after fourteen.

6805. Would you be prepared to make it compulsory?—Yes, I would be quite prepared to make it compulsory; I think it would be a great advantage if it were made compulsory for all who are able to undertake it.

6806. *By Mr Alston.*—May I refer once more to the difference between, first of all, the mortality amongst girls, and then the mortality amongst English children as compared with Scotch. Would you say that if a properly-devised system of physical training were introduced into the schools, that it would have an effect in altering these conditions, first in the case of girls who do not get as much exercise generally as boys, and then in the case of Scotch children, who do not take as much physical exercise?—I certainly think that it would tend to reduce the difference between the two countries. I feel sure it would improve the health of Scotch school children, and particularly the health of girls, as there is at present more scope for improvement in them than in the boys.

6807. Of course you would say it is the duty of the School Boards—first in the interest of the nation, then in that of the schools—to improve the health of the children in schools; to take every proper means to improve that health?—Yes, I am strongly of that opinion; it would be a distinct advantage to the health of the children, and later on to the general health of the community, because the children become the men and women of the nation.

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6808. You draw the line at the school age in both sexes for physical exercises?—Well, if I draw the line, it is merely because my attention was directed more to that age by the wording of the memorandum sent to me.

Gymnastics and military drill: applicability.

6809. I also think you said that gymnastics and military drill would be more suitable after school age?—Military drill is rather a formal thing; you cannot practise it with very young children, and in the case of gymnastics, the exercises are somewhat too heavy and violent for quite young people; but I see no reason why military drill and gymnastics should not be introduced into the later periods of school life.

6810. Then would it be desirable to limit the exercises during the school age to what we know as physical exercises—free movements and Swedish drill, and so on?—Up to the ages of ten or twelve, what you suggest would probably be desirable, but after these ages one might introduce the more severe forms of exercise.

6811. You would not postpone gymnastics and drill till the age of fourteen?—Not necessarily; in the case of gymnastics, certainly not; military drill perhaps might be postponed, but there is nothing, of course, sacred about a particular age.

6812. Then by gymnastics do you mean applied gymnastics—the vaulting horse, travelling rings, parallel bars, horizontal bars?—Yes, I mean the more heavy forms of indoor exercise. There are some gymnastic exercises which could be undertaken by quite young children if done under proper supervision, and in a gentle fashion.

Boys and girls.

6813. How far would you go with gymnastics of that kind in the case of girls?—I think girls could go practically as far as the boys. I do not see any reason for making any difference between them and boys, except that they are not quite so powerfully built as boys, and not so capable of undertaking very heavy exercises, but otherwise what they have got to do, if tempered to their strength, girls could undertake as satisfactorily as boys, such as parallel-bars, horizontal-bars, travelling rings, and, indeed, practically all forms of gymnastics, provided they have had sufficient other physical training before beginning these gymnastic exercises; but it would be be a great mistake to begin these gymnastics at the age of puberty with girls without previous physical training of a milder type.

6814. *By Mr Shaw Stewart.*—I think you have sometimes seen signs of effects of over-exertion in Aberdeen?—Yes, I think I have sometimes seen it.

6815. Do you think that if the system which you favour, of twenty minutes or half an hour a day being devoted to physical training in schools were established, would that make children less liable to suffer from over-exertion later?—Undoubtedly.

6816. With regard to your last paragraph, am I right in taking it that you are strongly in favour of organised physical training in the universities?—I am.

Playgrounds: covered sheds.

6817. One question with regard to the present state of playgrounds in Scotland. I think you said that there was no need for any change or any additional facilities for physical training in schools at the present time?—I think in what I read at the commencement of my evidence I took rather the opposite view—that the playgrounds were usually too small for outdoor games, and that playing fields should be made available. In answer to Professor Ogston, who was asking whether one could not carry out some sort of exercise even in the worst-equipped schools; I said yes, there was no school so situated where a certain amount of physical training of a kind could not be done; but it could not be done, of course, in the best possible way.

6818. What I wanted your opinion upon was the question of covered sheds and playgrounds?—Yes.

6819. Which some witnesses have said would be very useful?—Yes.

6820. Especially in the North of Scotland, where

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they have sometimes to contend with drifting snow?—Yes.

6821. Then you would be in favour of covered sheds?—I would, undoubtedly. I think the exercises should, as far as possible, be taken outside the school.

6822. There is a great virtue in the exercise being done in the fresh air, and not in a room, however well constructed, where one has to breathe the expired air of other parties?—That has been made very evident to us in recent years, from the analogy of the great efficacy of fresh air in the treatment of phthisical cases.

6823. In some parts of the North of Scotland, perhaps the West too, it would be necessary to have covered sheds in the playground?—I think those covered sheds would probably be wanted everywhere. I do not know that there is one part of Scotland that suffers much more from snow than another. The temperature does not vary much throughout the country. In Aberdeen our average temperature is only about one degree lower than the average temperature of Edinburgh. Sheds would be wanted fully as much to protect the children from strong wind, or even from rain, which is perhaps the most serious thing.

6824. I think it was a witness from Kingussie who spoke of the driving snow?—Yes, it would be rather more in these upland places than in a lowland place, such as Aberdeen.

University: volunteer corps: physical exercise should be obligatory.

6825. *By Sir Henry Craik.*—Is there any attempt in the university to have a volunteer corps?—They have a volunteer corps; they have had one for a considerable number of years.

6826. The proportion of students who join it is small?—It is not large.

6827. Would you anticipate difficulties in the way of pushing physical exercise amongst the university students?—Well, there would be some a little disinclined to be compelled to undertake it, but I think that the benefit would be so great to all of them that they ought to be obliged to undertake it.

6828. Would you anticipate any difficulty from those who grudged the time?—Well, there are some at present, and including, I daresay, a few of our best men, who might look upon it as a waste of time. So serious are they in their studies that they might regard any time taken up in this way as a waste of time, but I think they would be quite wrong.

Examinations and over-pressure.

6829. That proceeds from something of the same source as you have spoken of in regard to the ordinary schools, viz., preparing for competitive examinations?—Yes, of course, in the university they are almost constantly in preparation for some kind of examination or another—class or degree.

6830. Then that defect of over-pressure in the curriculum is not due to any regulations, but to the keenness of competition?—Largely, yes.

6831. No demands that are made under the regulations of the Code, but the anxiety to pass examinations on the part of the pupils?—Yes, that is so; I do not think we could, in Aberdeen, lessen the number of our examinations very much in the university, and at the same time secure that we were satisfied that the men we were sending out knew their subjects sufficiently.

6832. Yes, but amongst the younger boys, before they go to the University, surely you can impose some sort of limit upon the strain of competition?—Oh, yes, I think it is very desirable to limit it; I think it is a great misfortune that we have so much strain, particularly amongst lads who are preparing in the North for our University bursary competition. Many of us in the North think that in place of its being a blessing the bursary competition is rather a curse to education.

6833. Are you aware that the Department has attempted to limit the number of entries in the Leaving Certificates Examinations?—Yes, I know you have been working in that direction.

6834. And you think the Department would be justified in saying that a well-organised school was not one which overpressed its scholars?—Oh, most certainly, I think it is the greatest possible mistake to overpress boys and girls at the ages from twelve to sixteen, or, indeed, at any age.

6835. I am very glad to have your support in the attempt the Department is making to do so?—Yes. *Prof. M.H.* 9 Ju

6836. You visit the schools, I think you said?—Yes.

6837. Have you ever examined the amount of accommodation that is required, and, may I ask, whether you think it is sufficient?—I believe that the Scotch Education Department lays it down that there must be a minimum of 120 cubic feet for each child, or they will not give a grant for building purposes. Accom tion: space venti

6838. The Department only asks 80, but, of course, everyone knows that the amount given is very much larger. Our real measure is 10 square feet of floor space?—Yes; well, a good deal depends on the system of ventilation. If the ventilation is good you can do with a comparatively small amount of cubic space. If the ventilation is defective you require more cubic space. My opinion is that the amount of cubic space in the schools is often far too small, and that, generally, in such cases the air is not good. I have examined the air in certain of the Aberdeen schools which have mechanical ventilation. They are supposed to be rather better ventilated than the schools of many other places, and yet, even with mechanical ventilation the air is not always all that one would like it.

6839. The Department is quite aware that the 80 cubic feet, which is one of the remains of the old type, is not fit at all?—No.

6840. It is not the limit really; the limit is the 10 square feet of floor space?—Yes, but I am referring to the 10 square feet of floor space just now when I say that in my opinion it is somewhat too little.

6841. Too little?—Yes; it does not err upon the side of being too much.

6842. It is too little, you think?—I think it is too small, if anything.

6843. With regard to the ventilation, do you think it would be justifiable to require mechanical ventilation in the case of all schools?—Well, it raises a very important question as to which is the most satisfactory method of ventilation, and it is a very difficult question to answer; of course, one knows that those persons who invent apparatus in connection with natural ventilation maintain that natural ventilation is the better method, and the same thing happens with those who invent mechanical ventilating apparatus. I have examined schools of both kinds, and I agree with others who have made similar examinations, and have arrived at the conclusion that mechanical ventilation, as things are at present ordered, gives better results than natural ventilation. Mec vent

6844. And in Aberdeen you have advanced very far in mechanical ventilation?—That is so; but I may add that ordinary mechanical ventilation has its drawbacks. For example, we have introduced it into our new university buildings, but have not been completely satisfied with it; for one thing, it carries in a large amount of dust, in spite of filtration of the air through wet screens. We are about to make a further extension of our university buildings, and we are at present considering whether we shall not alter the system of ventilation for these buildings. We expect, however, still to have recourse to some method of getting fresh air other than by natural means.

6845. By natural means you mean the pulling down of a window at the top?—Yes, or by ventilating tubes or ducts.

6846. You speak of the dress required for girls, but do you think it is a desirable thing that these physical exercises should be performed even by the boys without some slight change of clothing?—Oh, no; I think they generally want a change of clothing. The clothing, as a matter of fact, in Scotland in winter would be too heavy; they would be apt to sweat under it. It is not desirable, unless a change of clothing is available, to to have physical exercises accompanied by much sweating, as if a boy goes back afterwards to sit in his damp clothes, and is a delicate boy, he may get chilled. Clot chan gart

6847. A very small expense would enable a boy to have some light garment which he could wear in place of his coat?—That is so; or if he simply threw off his

coat and vest altogether, he might carry on the exercises satisfactorily if the place were sufficiently protected in winter against too much exposure to cold.

6848. The fact, I think, you will admit with me is that it is a very rare thing in Scotch schools; they very rarely remove their clothing for any exercises?—They do not do it generally; but in some schools they do.

6849. Do you think it would be desirable?—Yes. Of course one has got to keep in mind the kind of exercise they are undergoing at the time; the more active the exercise the less clothing they require. But in all cases light and loose clothing greatly adds to the freedom, and, no doubt, to the benefit of the exercise.

6850. *By Sir Thomas Coats.*—There are just two questions I would like to ask you, to take you back to the startling difference between the death-rate in England and Scotland of the children between five and ten; might I suggest that it might be owing in England to the greater cleanliness in the houses of the average working man and the greater appreciation of ventilation shown by their opening their windows much more frequently?—Well, I think there may be something in that. I confess in many parts of Scotland the standard of cleanliness amongst the working classes is not what it should be. I am quite willing to admit that; but I am scarcely prepared to admit that it would account for that big difference; but still it is one of the things that would tend to bring about a difference.

6851. You find a difficulty in accounting for this enormous difference?—Yes, I have certainly found a difficulty. Of course various explanations may be put forward, but I am not clear about any of them.

6852. Regarding the food, you have stated that the wages are very much higher and the purchasing power of the wages have also increased; it is very self-evident, I think, to anyone; but regarding the quality of the food, we hear a great deal about the deterioration in the quality of the food given to children, that is that oatmeal is now purchased in the apothecary's shop and the weight is less than that of sugar, and that the children are fed so much on white bread and tea or white bread and jam and tea. Well, do you think that the food they get now is producing stronger children; we hear so much the contrary opinion?—It all depends, of course. No doubt in those days of great poverty which existed forty or fifty years ago, many of the children did not get enough even of the ordinary substantials, and what they had was almost all of one kind, and did not tend to tempt their appetite. Nowadays they get much greater variety, and though I quite agree with you the change is not always towards better feeding, there has been improvement in some directions. I think at one time, in a town like Aberdeen, or, indeed, any town, milk was consumed to a very small extent. Now milk, which is an admirable article of diet—the best almost of all articles of diet—is far more generally consumed than it used to be, but it is an expensive article of diet, so it could not be bought in those poorer days, but now it can be bought by the working classes fairly freely. Of course, there is also the question of clothing; the clothing of forty or fifty years ago was very indifferent, many children of the poorer classes going about barefooted all the year round. Now in Aberdeen it is quite rare, in winter at any rate, to see a barefooted child.

6853. *By the Hon. Thomas Cochrane.*—There is only one question I wanted to ask you; I think you said that certain physical exercises are advantageous for all children during the growing age?—Yes, I think so.

6854. And that they may be carried out at the school age and also at the universities without much difficulty?—Yes.

6855. Can you suggest any way in which it could be carried out for those children after the school age who do not go to the university, that is, the general mass of the population?—Well, I have not thought of that; but, of course, if it was thought desirable by Government to introduce compulsory military exercise, or what might be paradoxically called 'compulsory 'volunteering,' then in that way for boys you could have this physical training carried on, and for my part I would very gladly see this compulsory military drill imposed on all fit lads above a certain age. I have no hesitation in my own mind about the advantage of it, although I believe there are many persons who would not look upon it with favour.

6856. You think that physical exercises would be advantageous to all lads and girls too, to a certain age?—Oh, yes; it stands to reason that that is so, unless they happen to be getting sufficient outdoor exercise, either from the nature of their work, or because they are boys or girls who take to sports and games.

6857. And that the loss of liberty would be more than compensated by the advantage that they would gain if it were made compulsory?—Yes, I think so; besides, it need not occupy a great deal of time.

6858. There is nothing in the occupation of young men that would really interfere with their getting a sufficient amount of physical training?—No, I think the occupations nowadays, even with working-class people, are becoming more and more sedentary. A man has now less and less of hard work to do with his body; he simply turns a handle and sets his machine agoing and tends it, and when his day's work is over he is still left with a large amount of physical force to occupy with physical training or games, or whatever it may be.

6859. *By the Chairman.*—There are just one or two questions I want to ask. I suppose your acquaintance with the children is in a double capacity, seeing them at home, and also seeing them at school in Aberdeen?—Yes; I see them both ways, although, of course, I am not the medical officer of the School Board, and it is not often that I go round to inspect the children in the schools.

6860. Therefore all that you have been telling us about childen at school is principally from having observed them at home?—As I have already remarked, I have charge of the fever hospital. I suppose about half the children of Aberdeen pass through it for zymotic diseases, so that I see them there.

6861. I want to put it a little differently, it is children who are at school rather than school children that you are acquainted with?—I see the school children when they come to us in hospital; they are not, of course, at school during the time they are with me, but they are all school children.

6862. They cease to be school children; they become children who are at school; you do not actually see them in school?—No, I do not actually see them in school, not as a rule.

Medical inspection.

6863. You say, 'Medical officers of health have long 'held that every School Board should have the skilled 'assistance of medical men for the inspection of 'children, even under present conditions.' Do you refer to any united report by medical officers, to any authority upon that point?—I could not offhand refer to any report.

6864. What are the grounds for your making that statement, if I may ask you?—Well, it is a matter of frequent talk amongst medical officers of health.

6865. Is there any organisation of medical officers?—Yes, we have a Society of Medical Officers of Health for the United Kingdom. There is also one for Scotland alone. I feel sure if you were to ask their views about it they would be unanimously in favour of the medical inspection of school children.

6866. But they have never taken any action or submitted any report?—I would not like to say that they had not; I think possibly you would find they had at sometime or another passed resolutions about it.

6867. But you never heard of the Local Government Board asking for anything?—You mean in the direction of enquiring what our views were?

6868. Yes?—I do not think they have asked that.

6869. Or any public authority, such as the District Council, the Local Authority?—You mean asking for information?

6870. Well, ever mooting the question at all?—No, I do not think the district committees have taken it

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up, but I feel sure you will find in the reports of certain medical officers to their district committees, or local authorities, reference made to the advisability of having medical supervision of schools. I think it would not be difficult to find several references of that kind if one chose to wade through the reports.

Duty of inspection on Public Health Authority.

6871. You do not think it is outside the province of the Local Authority to enquire into a public matter of that kind?—Either the Local Authority as the Public Health Authority or the School Board having charge of the schools—either the one or the other might enquire into it.

6872. It would not be saying too much to say that it was their business to enquire into it?—Yes, I think it is their business; they are the Public Health Authority and they are responsible for the maintenance of good health amongst all classes of the people, whether school children or not.

Girls: cycling.

6873. Have you any opinion to offer as to the advantage or disadvantage to girls of the bicycle?—Well, I know some entertain the view——

6874. I think I understood you to say they do not get as much exercise as boys; have you taken into consideration the large number of girls who use the bicycle?—I think the number is rather diminishing in recent years; with girls the bicycle is not quite so fashionable as it was; these things are very much matters of fashion. I know the opinion of some medical men is that the bicycle for girls is not advisable. I cannot say that any ill effects from it have come under my own observation. On the whole I would say that as girls do not take much exercise, as a rule, I would rather that they took exercise on the bicycle than no exercise at all.

6875. As improving their development?—As improving their development and general health, though it is not a kind of exercise that tends to improve the deportment, as everybody knows; it tends to give roundness of shoulders and stooping gait, and all that sort of thing.

6876. Does it for girls; girls sit up on their bicycles?—They do sit much better than boys, but whether it does tend to improve the deportment I should very much doubt. I should think not, in spite of their sitting up somewhat; it is only by contrast with the boys that one notices it—the boys generally sit so badly.

Scottish Universities: compulsory physical training favoured: reasons.

6877. *By Professor Ogston.*—Allow me to repeat a question, it is of such very great importance that Professor Hay's deliberate opinion regarding it should be on record before us. I think you hold that compulsory physical training in the Scottish universities would not be a hardship on poor industrious students, who aim at the highest university distinctions?—Certainly not.

6878. That is your deliberate opinion?—Yes, my deliberate opinion. I think many of them would be a great deal the better for having a certain amount of physical exercise forced upon them. They go through their examinations well, perhaps as the result of the extra time they are devoting to their studies on account of their giving no time at all to physical exercise; but the ultimate outcome of it is not satisfactory—the final discipline of the man, and his fitness for his ultimate life work has been impaired by it, and one can easily point, in any Scotch university, to lads who afterwards suffer from not having taken sufficient physical exercise. They may have taken very high places in the university, but they have left it worn out physically and mentally, and fit for nothing strenuous in the battle of life.

Medical inspection of scholars under Educational Authority.

6879. *By Sir Henry Craik.*—One other question; you say that it ought to be part of the duty of the local medical officer to medically report on the children in schools?—You mean the medical officer of health.

6880. The medical officer of health?—I think I rather said he would have a difficulty in undertaking that work, at any rate in a large town, without assistance.

6881. But do you think that that would be a function of the Local Government Board at all?—Or a function of the Local Authority?

6882. Of the ordinary Sanitary Local Authority or a matter in which the Local Government Board might propose itself to fall within their function at all?—Well, the subject of Public Health, of course, is such a wide one.

6883. But surely the business of the Local Government Board and the District Council is to look after the fact that the conditions of life are healthy, but not surely to examine into the health of particular citizens of whatever age?—Well, no, not except in a general way, but, mark you, it is the Local Authority which looks after all infectious diseases.

6884. That is disease, but not the promotion surely of health in the individual; they have to take charge of any case of epidemic disease?—Well, they have power to provide public parks and baths, and all kinds of things which are supposed to promote individual health in a general way, but I quite admit that the health of school children, at least in so far as it has got to be attended to within the school, would naturally fall to the School Board.

6885. You are aware that the Education Department fully recognises that the inspection of the premises of the schools, so far as relates to sanitary arrangements, rests with the Local Authority?—Yes.

6886. And is a matter for that Local Authority?—That is so.

6887. But surely with regard to the scholars, that must rest with the Educational Authority?—I am quite willing to admit that that is so as regards the inspection of the scholars, but what I suggested in answer to previous questions was not quite that the Local Authority should take it up; indeed, I do not know that I did say so; I was asked the question whether the medical officer of health could not take it up. I said he was already rather heavily burdened with duties, but that he might, acting under the School Board or the Education Department, undertake, nevertheless, to supervise any inspection of children that was required, in view of the possible difficulty of finding any other suitable officer for the purpose.

6888. But it might be made a condition of a school that receives grants from the Education Department that the School Board should have such medical inspection?—Yes, I think it would be a great advantage if it were made a condition.

6889. *By Mr Fergusson.*—Might I ask one question about the mechanical ventilation in your schools; what sort of ventilation is it?—The air is carried in by fans; it is a propulsive system. The fans are worked by a gas engine or a steam engine, and the air is carried through ducts below the buildings and up into the various rooms.

6890. Was that done at the instigation of the Educational Authorities, or at your instigation, or why?—No, it was done entirely at the instigation of the School Board itself. The School Board in Aberdeen have always had a very open mind with regard to things of that kind, and have been very progressive. It is many years since they began to introduce mechanical ventilation into their schools, and I believe that every school they have put up for a number of years back has been provided with mechanical ventilation.

6891. That could not be done in many schools, probably only in new schools?—In the case of existing schools, it would be very expensive to do it, because the ducts have to be constructed below the building.

6892. It would be expensive to work; you require steam or electric machinery?—It is much more expensive, of course, than ordinary ventilation.

6893. Has it been entirely satisfactory?—Well, it does not accomplish all the results one might wish to have from an ideal system of ventilation, but, as I have already remarked, it is, in my opinion, a better system for schools than unaided natural ventilation, although I quite admit that there are differences of opinion about it, but I think the general feeling on

the part of those who have actually investigated the relative merits of the natural and mechanical systems for schools is that the mechanical system gives distinctly better results in the purity of the atmosphere.

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The witness withdrew.

Mr THOMAS D. SAVILL, M.D., examined.

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6894. *By Professor Ogston.*—May I, before you read your evidence, have it put down that you are a Doctor of Medicine of the University of London, and Diplomate of Public Health of Cambridge; a Member of the Royal College of Physicians of London; a Vice-President and a Founder of the British College of Physical Education; formerly Physician to the Gymnasia of Exeter Hall, the Peoples' Palace, and the Polytechnic; Physician to the Hospital for Diseases of the Nervous System (Welbeck Street), and the Hospital for Diseases of the Skin (Leicester Square); formerly Examiner in Medicine in the University of Glasgow; Medical Officer to the Royal Commission on Vaccination; Medical Superintendent of the Paddington Infirmary, London, and other qualifications?—Yes.

6895. And you have had many years of experience, and have thought and written upon the subject of physical education?—Yes.

6896. Would you read the notes that you have prepared?—These were rather hurriedly written, because the notice was rather short, and of course they do not deal at all exhaustively with the subject.

6897. In reading over your notes do not consider yourself bound to adhere to those you have supplied us with in print, or those that you hold in your hand, but give us any enlargement of them that occurs to you as being of use to the Commission?—1. That there is a general tendency to a physical degeneracy of the race, which is probably mainly owing to the migration from rural to an urban mode of life, and this is in spite of the improved hygienic environment of the masses. This I believe to be a very serious matter. It is one of these difficult general propositions, difficult to prove, and at the same time there is not a shadow of doubt about it. There may be other causes in operation, but the movement from rural to urban life is, and has been, going on for a very long time. The only proofs that I can offer you of that are first, what we can see for ourselves, those especially of us who are engaged in large out-patient practices, in the difference of the health between the individual in the town and the individual in the country. Secondly, from the known healthiness of the country as compared with town. Thirdly, I am told on very good authority that among the candidates for recruits in the army, there is a larger percentage of rejections among the urban recruits on account of physical unfitness than among the rural candidates. Again, it is a very well-known fact that all the 'smaller' regiments like the Hussars, the drivers of the Royal Artillery, and others where the standard is necessarily less, are filled up with urban candidates who cannot get into the larger regiments, such as the Foot Guards and the heavy cavalry; the latter containing a much higher proportion of men from rural districts. 2. That physical education is as important as intellectual—if not more so—since the intellect cannot be employed unless the physique be healthy; therefore physical, like intellectual, education should be made complete and compulsory. I hold very strongly that a thorough physical training implies and involves also a training for the character and for the mind. Better work is done by the mind after physical education, and the mind ultimately becomes more disciplined, and in general respects stronger by the teaching of the co-ordination and co-operation of the various parts of the body, and of various individuals with one another, and therefore physical, like intellectual, education should be made complete and compulsory. It *is* in a sense compulsory in the Board Schools of England at the present time, but it is certainly not complete. It is not altogether compulsory in the national schools, or rather, I ought to say, it is still less complete. 3. That the physical training of the young should be placed upon a scientific basis, and carried out under medical supervision. In answer to one of the questions in the remit, I have ventured to draw up a sort of brief definition of what I regard as a satisfactory scientific scheme for training. For elementary schools and children under fourteen, in whom the chief object is the development of the general physique, the ideal system of physical training is one which is military in this sense, that it can be taught to word of command, yet which can without alteration be associated with music, one which inculcates discipline, and which is strictly progressive in its arrangement and scheme; a system which is 'Swedish' (so-called) in this sense that it consists of floor-work only (*i.e.*, free movements, or with very light movable apparatus); a system which is easily learned by both teacher and scholar; and, finally, a system which has plenty of variety, so that the teacher can adapt it to the age and physique of the scholars, the place (indoors or out), the weather, the time of day, and other conditions of the environment.

Physical training should be scientific, under medical supervision.

Suggested scheme.

4. That physical training requires special adaptation to the age-period of the individual — childhood, adolescence, maturity. It should also be adapted to the end in view. For example, in early life every means should be employed to make physical training attractive, and designed to develop the *general* physique—just as our early mental training is designed to develop general ability. In adolescence it should have a more purposive character; and finally, in maturity, by the co-ordination of the senses, the intellect, and the physical powers, it should gradually be directed into those channels which constitute a source of national strength in time of need. My fifth proposition is that, although I can submit evidence on some of the details referred to in the medical supplement to the remit of the Commission, statistics or even accurate information do not exist on a large number of them; and in view of the national importance of many of those details, and of the principles and policy dependent on them, it would be very desirable that the Commission should employ a non-medical and a medical expert in the collection of such evidence and statistics. And I may add that there is a precedent for that in the case of the Royal Commission on Vaccination, where the services of experts were employed to enquire into the various matters on behalf of the Commission, and the blue-book issued by that Commission is now the source of all the best, most accurate, and most recent information that is obtainable upon the subject.

Adaptable and progressive.

No statistics.

6898. In regard to the first paragraph, you give us a number of proofs of the degeneracy; I suppose in view of the complexity of the subject you would not say that any one of those proofs standing by itself is absolutely conclusive of there being a degeneracy?—I think that the statement that I made about the army recruits is conclusive evidence of the evil effect which town life has upon that class of the community from which the recruit is drawn, which form the mass of the population.

Degeneracy: army recruits.

6899. But taking all proofs together, you think they amount to evidence that the degeneracy you speak of actually exists?—I think so; yes, I feel satisfied in my own opinion that it is so. Of course, the recent war is, to some extent, confirmatory evidence, because, after all, the reason why we were beaten was because we could not see so far as they could, nor as well. Of course, it is a military question; but I think anyone who converses with those who were out there, and are thoroughly conversant on the subject, will tell you that that is so.

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Time: amount necessary.

6900. In the second paragraph you attach great importance to physical education; could you give us any guidance as to what would be a just proportion of time to be devoted to physical as compared to mental education?—In the elementary schools one out of six hours is what I generally advise as a minimum; half an hour in the morning and half an hour in the evening is the most advantageous division of the subject.

6901. That is one hour for the physical to six of the mental?—Yes, one hour to five or six.

Physical training: period of adolescence.

6902. In the fourth paragraph could you in any way guide us regarding any other special points or precautions required in applying physical training to adolescence of the male sex or the female sex?—The general purpose, as I have said, in early life up to fourteen should be that of general physical culture, and I very strongly disapprove of the introduction of military exercises and drill as such under fourteen in the same way as I do 'gymnastic'; because the child is not sufficiently developed to stand the strain, and no amount of supervision will prevent harm accruing to them before the bones are set. If they get on to parallel-bars and horizontal-bars and ladders, they do more harm than good in most cases.

6903. Then might I ask, particularly in regard to girls at the age of adolescence, whether you consider that there is anything unfitting them to receive a well-judged physical training?—During school age the object in both sexes is to promote *general* physical culture, as I have said. That is obtained by games organised properly, and exercises for the trunk and limbs—musical drill, etc. Then from fourteen to eighteen we come to gymnastics, military drill, self-defence, boxing and shooting, all of which should certainly be made compulsory. Swimming is available for all ages, under supervision, and not permitting the element of competition to enter in. As regards ordinary exercise—walking and running—those do not exercise, of course, the whole of the body equally, practically only the lower part of it. All athletics exercise the lower part of the body and generally the right arm.

Objects: forms.

Girls up to fourteen.

As regards girls up to the age of fourteen, I believe that they are quite capable of doing the same as boys, but not *with* boys. On general principles one should classify one's scholars by their physique, and girls can do, and they do do, very generally and with a very great deal of advantage, both in public and private gymnasia, all the things that the boys do, especially up to the age of fourteen. But they should play by themselves and have classes by themselves, or with the boys of strictly corresponding physique. As regards special dress for girls, that is quite unnecessary under the age of fourteen. The only bar to physical exercise is corsets, and they do not, as a rule, put them into corsets until they are fourteen.

Special dress for girls.

6904. Do you consider that a special dress is necessary for girls at the age of adolescence and above it when they are being instructed in physical training?—Corsets, if they are reasonable, are not a bar to simple floor work (so-called 'Swedish' movements); at any rate corsets are the only article of dress which needs alteration or omission. Advantages are to be gained by a special change of attire for all physical culture, and for fixed apparatus you *must* have special dress for a girl—horizontal bars, parallel bars, ladders—a special dress is indispensable for 'gymnastics' proper, which, as I maintain, should be confined to girls over fourteen.

Girls over fourteen: applied gymnastics.

6905. Do you advocate those applied gymnastics for girls of fourteen and upwards?—Fourteen and upwards; yes.

6906. You do?—Oh, yes; under adequate supervision. It is a magnificent thing for them. It teaches them how to hold themselves and walk, and carry out a healthy life, and it is more important even in their case than it is in the boys' case. They are the mothers of our future generations, and they bear healthier children. I have known it again and again.

Athletic games: two great faults.

6907. Another point; what is your opinion of the value of athletic games?—As a means of physical education?

6908. Yes?—Well, I do not want to be misunderstood; but I do very strongly hold that the athleticism of England may be a means of its downfall, if it lulls the nation into a false sense of security and induces men to believe that athletics can promote the general physical culture of the masses, educationally and developmentally. Athletics is extremely well in its way, and I daresay has done a great deal in the past, and may still do a great deal in the future, but there are two great faults. In the first place it cultivates the few at the expense of the masses. You will see in *The Morning Post*, and other papers, from time to time, advertisements from schools that they will take children at a reduced rate if they are athletically inclined. Now, this means that the teachers will 'nurse' those children at the expense of the physical development—and perhaps the mental development as well—of the others in that school. The rank and file of the school cannot get sufficient physical culture from athletics; it is the few who are very good, and who get coached and trained, and for these the many are sacrificed. The element of competition, which has its advantages in some ways, is, to a great extent, inimical to systematic, scientific physical training of the mass. It always engenders a spirit of fostering and nursing a few at the expense of the many. In the second place, anyone who has thought over athletics knows perfectly well that nearly all athletics only cultivate certain parts of the body, and certain muscles, at the expense of others; they leave out the upper part of the body nearly always. Practically, there is only one recreative exercise which brings into operation all the muscles of the body fairly equally, and that is boxing. Rowing, which ranks next, exercises the thighs, the back, and as an illustration of one-sidedness, you can tell which side of a boat a man has rowed when he strips. When he comes up to the 'Varsity you can tell whether he has rowed on the bow side or the stroke side in his school or college boat, and the arms are almost left out, excepting in 'feathering' and 'recovery.' Well, then, cricket; it is all the thighs and legs, as anyone knows after playing his first match of the season; it is in the front of the thighs where he feels it. 'Fives,' of course, is played with both hands; rackets, it is all one hand; it is right hand and legs; it all leads to inharmonious and asymmetrical development. Out of the 227 muscles in the body, all but five of these are in pairs, and therefore a large number of muscles and a large part of the body remain undeveloped. Children must first be trained by a general physical education up to ten, twelve or fourteen; after which athletics and military exercises, gradually evolved, will do nothing but good, and they become a source of strength to the nation and the empire. I should be very sorry to appear as an opponent of athletics; but to say that it satisfies all the indications and requirements of a general scientific physical education is absolutely wrong, both from the point of view of the masses and the point of view of the individual.

6909. Have you any experience that would enable you to judge whether the present mental training given at schools is excessive or injurious?—Well, as physician to a Nerve Hospital, I do come across a good many instances where school has *seemed* to do harm, but I could not say that this was really so—because it is very likely that in nearly all these there is a predisposition on the part of the individual. As regards eyesight, they are paying some attention to it, and I think that it is a move in the right direction. I get a large number of children with headaches that are due to eye-strain; but you cannot examine a large number of children and see if their eyes are all right; they come to the hospital and they get fitted with glasses and they are all right.

6910. *By Sir Henry Craik.*—What was the distinction you drew between the Board and the National Schools in regard to the requirements of physical instruction? I did not quite understand?—In the National Schools, the same rules apply to them, but there is no system of inspection, I believe, or, at any rate, it is an indifferent one.

6911. And in the Board Schools?—It is more thoroughly carried out.

6912. Inspection under the auspices of the School Board?—Of the School Board I suppose, yes, that would be so.

6913. But you think that there ought to be inspection by some Imperial authority of Board Schools, and National Schools as well?—I think that the whole thing should be placed under medical and expert supervision, and inspection to see that it is carried out properly. I do not think that the inspection of the National Schools is sufficient.

6914. I do not quite understand why the inspection should not be as thorough in one case as in the other; the National Schools are the voluntary schools under the Church of England?—Yes.

6915. But they are under the same inspection by the Board of Education?—I do not think Mr Chesterton inspects those, does he?

6916. Oh, no, Mr Chesterton, of course, is only for the School Board; you are speaking of London?—I am speaking of London more particularly.

6917. And you think it is the case that there the Board gives a supervision to its own schools which is not given to the voluntary schools?—Oh, yes; I am almost sure of it.

6918. With regard to this degeneracy that you speak of, do you think that that is due to the absence of opportunities of physical instruction, or to anything defective in the stamina of the children; is it a constitutional defect, or is it merely the want of physical training?—I think, sir, it is chiefly due to the removal from rural to urban life, and to the general increased strain of town life, which should be compensated for, and could be compensated for by physical training.

6919. It is rather the less developed that you wish to attend to by this physical instruction, whom you think would be neglected if merely games and athleticism were the object?—Yes, I think that ninety-nine out of every hundred children would be benefited by it; I might say cent. per cent. I think the weaklings would be made strong, and the so-called strong would be made stronger.

6920. Yes, but the systematic physical training as compared with the games would be for the benefit rather of those under par?—Oh, yes; an immense benefit to those.

6921. Do you think that there is the same defect in physical instruction that we find with regard to the intellectual instruction, that it is apt to lead too much into a competitive line?—Yes, I think so, particularly in the case of swimming in the domain of physical culture.

6922. *By Mr Alston.*—Is this degeneracy that you think you detect in the race general or rather confined to the urban population?—I think it is mainly confined to the urban population.

6923. And you seem to indicate that that population is gradually becoming the majority by the influx from the country into the city?—Yes.

6924. So that the degeneracy is tending to be more general than it was?—Yes.

6925. We have had evidence before us, however, that seems to justify a belief that the race is not degenerating; but that is not your experience, is it?—I think in point of stature, if you take that criterion—the stature of the present race—it is perhaps bigger than it was in former times; we are rather taller than we used to be. But our chest measurement, there are good grounds for believing, is relatively less than it used to be in former times. And compare the country population as we know it, and as we have known it all these years, with the town dwellers, the staying power of the latter, which, after all, is the test of stamina, cannot compare with that of the former.

6926. You drew some of your proofs from the enlisting of recruits for the army. I think you said that the artillery and other branches of the force, not requiring stature, get their men from the towns?—Yes, physique as measured by stature and chest measurement.

6927. When you came to the Guards and the Household Cavalry you had to go to the country?—Yes, they are nearly all countrymen in the Guards and in the Royal Artillery; drivers, and the light cavalry—Hussars—they are nearly all townsmen.

6928. And the line regiments generally, I suppose?—Yes, and consequently this is the second great fact, there are a larger number of rejections among urban candidates for recruits than amongst the country ones, they do not come up to the physical standard—the urban applicants.

6929. The urban do not?—No.

6930. Is that a mere standard of height?—They take the height and the chest measurement as compared with the age of the individual.

6931. And the chest measurement is bound to indicate physical stamina?—Yes, it is the best indication.

6932. Or some important quality?—Yes.

Eyesight.

6933. Then you indicated as a proof of degeneracy the eyesight of the urban recruits as compared with that of the Boers. Do you mean to pit them against our soldiers generally, or against those from an urban population; in what was the comparison; was it merely in the measure of eyesight or was it in stature, physical strength, stamina, on the part of the Boers as compared with our own troops?—I should not like to commit myself too much to the statement that that was the only reason, but there is no doubt that was one of the reasons, because they could see farther than we could, and they were trained in the open veldt, and their staying power seemed to be considerably in advance of a great many of ours, because they could always successfully get away from our men.

6934. This perfection of eyesight on the part of the Boers, is it not rather a case of evolution arising from the conditions of their life in the clear atmosphere of the Transvaal? Of course the eyesight was trained to a very large extent. Do you think you get a proof from that ground alone of the inferiority of our men?—Well, I know it is the town dwellers that always seem to have difficulty in seeing the target.

6935. At the range?—Yes, at the range, and of course I quite admit that the Boers were trained in their own country, and they might tell you whether a tree was moving three miles away.

6936. So it is a measure of training?—Well, it is a big subject.

6936A. Would systematic physical training in the schools tend to check this degeneracy of the race?—Oh, I am sure of it.

Compulsory training desirable: amount specified.

6937. And you would go the length of making physical training compulsory?—Yes, I would.

6938. And give it a very large proportion of the day's work—one of five or six hours a day?—One out of every five or six hours; it would be impossible to do with less, and I firmly believe from my own experience that the pupils do a much better five hours' work with their brains if they did one hour at their physical education.

6939. That is practically five hours a week of physical training in all the schools, and make it compulsory?—Yes, as a minimum.

6940. Then it should not be left to a School Board or a headmaster to say whether there should be physical training?—No, it is an Imperial matter; it is of vital concern to the whole nation that the children of the nation should be properly trained in general physique. It is quite as important as that they should be taught reading and writing.

6941. It is an Imperial measure; you would like to see it an Imperial matter?—Oh, yes, undoubtedly; I advocate conscription really in a modified way, because I have seen the great benefit which accrues to the individual from training of the army. I have seen it over and over again. Perhaps conscription as one meets with it in Germany is not suited to us; but who can go to Germany and see those fine well-set-up fellows walking—every man of them is physically capable of being, if need be, a soldier, and every one of

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them well-developed—without wishing for something like conscription.

'Athleticism' and 'physical training': definitions.

6942. Then I was going to ask you what you define as athleticism as against physical training, or gymnastics, or military drill; have you any particular form of exercise in your mind?—The term 'gymnastics' should be confined to the work in the gymnasium with *fixed* apparatus; military drill implies squad and company formation, marching, and exercises with the rifle and sham bayonet of some kind. Then what I mean by athletics are rowing, cricket, football, and all the other recreative games of youth and early manhood.

6943. Not necessarily attended by the evils of professionalism?—No; that, of course, is an additional, a later evil.

Games: unequal development.

6944. Do you want to bring out that athleticism applied to these sports is apt to be injurious because it does not produce an equal development of the body, and produces an injurious development of parts of the frame?—It produces an unequal development; it neglects the upper part of the body and the arms, one or other, or both.

6945. In the school life of children, and particularly of boys, when they take to sports like these that come under the designation of athleticism, would you like these sports supervised by their masters or by some competent inspector?—Oh, certainly, I should, for the double reason that one would like to exclude the very weak who are not suitable, say, for football, and also to group them into physical equality. The great art of making games good for and useful to children is to group them physically.

6946. Still your object would be that the boy and the girl during school life, and for the years immediately afterwards, should have every opportunity of having the body improved, whether by sport, by games, by physical exercise, by gymnastics with fixed apparatus, or by military drill?—Undoubtedly; yes.

Degeneracy: date of inception.

6947. *By Sir Thomas Coats.*—When you talk of this physical degeneracy that is going on in the country, how far back do you date this degeneracy; how long; is it a measure of twenty years ago, or fifty years ago, or what?—A process of this sort is very insidious; that is why it is overlooked, and one can hardly give a date; but I should say that the movement practically coincides—that is one of the proofs upon which I rely—with the tendency of the population to move to towns, that is to say within the last half century. If you look at the population of any of the big towns, they have nearly all increased by leaps or bounds within the last half century.

6948. We are told, going back a little further, of the armour that was made for men of that time, that our ordinary men can hardly get into it now; they have increased since that time. I suppose, then, you think they have gradually gone back again?—I find it very difficult to believe in statistics on suits of armour. When I was in Egypt last winter I saw some mummies—some of the Pharaohs—and they were really very big men, all of them; they all seemed to me bigger than we are now; but I do not know whether one can draw very much conclusion from such facts. Practically, sir, in answer to your question, I think I might say the degeneracy has, in my opinion, all occurred within the last fifty years.

6949. Do you attribute that to the feeding of the people?—To the diet?

Feeding.

6950. The diet, yes?—That opens the question of the struggle for existence. I do not think the children would require specially feeding any more for physical than for intellectual education. It is wanted, of course, in some cases in the East End schools. I daresay you know that in London there is what is called an Organised Meal Fund at the disposal of the School Board. It is a philanthropic fund; and it is a magnificent charity, to feed the little ones.

6951. Has it come under your personal notice that many children coming to London schools are underfed and require it?—Oh, yes.

6952. Quite a number?—Oh, yes, a fair proportion. I went down—a few years ago—to enquire into an epidemic of skin disease at one of the Shoreditch schools where there were 1050 scholars, and they practically all of them passed through my hands, and I should say something like 10 per cent.—it is a large number, but I should think something like 10 per cent.—seemed to me to be underfed weaklings, they did not seem to have any active disease, but they wanted nourishment, the poor little things. That, of course, is a very densely populated district, and a very poor district.

6953. You do not think at present charitable organisations are quite fit to cope with this difficulty? No, I do not think so, because I think they want more funds.

6954. And would you advise this being taken up by the State?—It is a very delicate question, is it not, whether in point of principle one ought to do that?

6955. Well, I ask, do you think it is a matter of carelessness on the part of parents or inability to give them food?—I think it is largely a measure of inability, because I went to many of these children's homes, where they really found it most difficult to make both ends meet. One man would be a dock labourer. Well, owing to the strike, he told me, he could not get more than three days' work a week; he had to keep a wife and three children on it. They got meat once a week these children; bread, water, and a little milk for the rest of the week.

6956. Then from what you said I would judge that it is on account of the town children being worse fed that the degeneracy is going on more in towns, not so much from surroundings or not so much what you could help by giving physical training, but on account of the nourishment they get, of the inability of a great number of parents in the large towns to give sufficient nourishment?—I do not think that would account for it; no, I do not think that would account for it altogether; it might partly help to do so.

Grading of classes for physical exercises.

6957. *By the Chairman.*—You said that you recommended classification by physique of schools for physical exercise; have you ever considered whether this would work, or is it only what you think would be the best thing to be done?—In the case of games very often you can do it; I was speaking more particularly as regards games. I do not see why it could not be done with all forms of physical culture to some extent.

6958. I mean have you considered it from a practical schoolmaster's point of view?—Oh, yes.

6959. Where one child never thinks about his stature, he thinks about his class, his standard?—Oh, I think it could be done.

6960. I mean is it sufficiently important to take children out of their proper standards and put them into their physical classes?—But if you give them two half hours a day—I mean two physical classes a day—one in the morning and one in the evening, you could easily arrange to divide one class into two if in no other way, such, for instance, as physical training at start or finish of their other work.

6961. That may be or that may not be, you will find a great many schoolmasters very much against it?—The schoolmaster is sometimes an obstacle to the physical training of children, I am afraid; I have not found him very amenable to suggestions; they do not like increasing the quantity or altering the quality of work.

Medical inspection of school and scholars.

6962. One general question, are you in favour of medical inspection of schools and scholars?—Yes, I think it should certainly be done.

6963. Whether it is pleasing to the schoolmaster or not?—Oh, quite so, yes, it is very desirable that that should be done for many reasons.

6964. I only wanted your general opinion; you think really, seriously speaking, that wherever physical exercises are practised in schools there ought to be some sort of medical supervision?—Certainly, by some medical man who knows about the subject, and who has studied it.

The witness withdrew.

Mr W. Leslie Mackenzie, M.A., M.D., examined.

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6965. *By Professor Ogston.*—To enable us to estimate your testimony at its proper value, I should like that it was noted down that you possess the following qualifications:—You are an M.A. and a Doctor of Medicine, both of a Scottish University, a Diploma in Public Health, also of a Scottish University, and at present your duties are those of Medical Inspector to the Local Government Board of Scotland?—That is so.

6966. And then the following additional qualifications you possess for advising us in regard to the physical training in schools, that you have been a pupil teacher from eleven to fourteen years of age in a Board School in Ross-shire?—That is so.

6967. A country school?—A country school.

6968. That you have been for three years a pupil in the Grammar School of Old Aberdeen?—That is so.

6969. What age were you then?—That is from fourteen to sixteen, going seventeen that is.

6970. What years were those?—1876 to 1879.

6971. That you were for three years a teacher in a secondary school for girls, teaching the subjects of logic, psychology, botany, physiology, physical geography, geometry, and the theory of education, the ages of the girls being from fourteen to twenty-four?—That is so, and I should like to add that the standard worked up to was the Aberdeen University Local Examinations and the St Andrews L.L.A. degree.

6972. That you were four years a student of Arts in the University of Aberdeen?—Yes.

6973. And five years a medical student in the Aberdeen University?—That is so.

6974. You graduated with honours, did you not?—Yes, sir.

6975. With highest honours?—Not highest honours in M.B. I had highest honours for the M.D. thesis.

6976. And did you take any honours as an Arts student?—I had first-class honours in philosophy, and second-class honours in classics, and the Hutton Prize, which was given to the best student for double honours, and the Jenkyns prize in classical philology, and the Bain gold medal and prize for mental philosophy.

6977. After that you were Lecturer and Assistant Professor in Physiology at the University of Aberdeen and Gordon's College?—Yes.

6978. Where you had to teach independent classes?—No, at Gordon's College it would be misleading to say that, but at the University. At Gordon's College I gave a series of lectures on the physics of the senses.

6979. That you were Medical Officer of Health for three years in Kirkcudbright and Wigtown, and in Leith for six years?—Yes, that is so.

6980. That you were Examiner in Mental Philosophy for three years in the University of Aberdeen, and Examiner in Medical Jurisprudence and Public Health in the same University for four years?—Yes.

6981. How many years of experience have you had since graduation in those various capacities?—I was three years a teacher in that secondary school for girls; I was lecturer and assistant professor in physiology for two years; I was three years and three months Medical Officer of Health for Kirkcudbright and Wigtown; I have been six years Medical Officer of Health for Leith, and since I have joined the Local Government Board in Scotland, about a year from January last, it is a year and five months.

6982. So that would bring it up to fifteen years or so you have had experience?—Somewhere about that, sir.

6983. Would you now begin to read the evidence that you propose to give us?—1. I have not made it my business to collect statistics of defects, and the like, in children, but I have never lost sight of the educational point of view.

My work as medical officer of health has been mainly among the working classes both of country and of town, and I have had many opportunities of acquainting myself with hygienic conditions over Scotland. I have had occasion to deal with infected schools, and to study what hygienic precautions are practicable in them. I am moderately familiar with elementary school drill and physical training. I have endeavoured to keep my generalisations as close to the facts of my personal observation and experience as possible. I regret that I can offer no detailed statistics on certain matters that might be elucidated by them.

Physical training: its value.

2. My main conclusion, in the light of which this statement is written, is that the primary value of physical training in schools is its value as discipline; that its value as a promoter of physical development is secondary, and that the great problem to solve is how to secure for the School Board child the nurture necessary to make physical training in school profitable. I should like to be perfectly exact about my words there, because the whole point of my evidence is that the important difficulty is to combine training in school with sufficient nurture for School Board children, meaning by that those that would be represented by the 14,000 school children in Leith, which is almost entirely an industrial community. The other children in Leith that go to school are mostly educated in Edinburgh, so that I am thinking simply of a concrete instance of an industrial community.

Nurture: important and difficult question.

Grammar School, Old Aberdeen: example of secondary school; continuous and exacting study.

3. As an illustration of a secondary school conducted on lines suitable to continuous and exacting study, I give some facts regarding the Grammar School, Old Aberdeen, as it was conducted in the years 1876–1879, under the rectorship of Dr William Dey. For the information of the Commission I may say that owing to changes incident to the work of the Endowed Schools Commission, among other things the Grammar School, Old Aberdeen, ceased to exist as such some years ago.

Description of school.

4. The primary work of the school was the preparation of students for an Arts course at Aberdeen University. The school subjects included classics, English, and elementary mathematics. The ages of pupils ran from thirteen or fourteen on the first class to any age up to twenty or more on the fourth and fifth classes. Roughly, the ages were from thirteen to seventeen or eighteen. The pupils were drawn from all parts of northern Scotland, and represented practically all classes in country and town. At least 50 per cent. or more of the pupils lived in lodgings in Aberdeen, usually two in a room, or room and halt. All the pupils, with very rare exceptions, had every motive for working. They were in considerable part picked men from rural schools, but a fair proportion were drawn from elementary schools in Aberdeen.

Intellectual work.

The tension of intellectual work was higher than at any other school I have known or heard of. Dr Dey himself taught the two highest classes in all the subjects, and prescribed courses of home reading. His aim was thoroughness of work by concentration of effort—the antithesis at once of cram and of dawdling. He made it impossible for triflers or idlers to remain at the school. None of the work was done in view of examinations; everything was done for its own sake. The results of fifteen years of work at this high pitch are written large in the history of Aberdeen University.

What of physical training?

Short school hours: recreation in open air.

In the ordinary sense there was none; no gymnasium, no swimming pond, no time specifically allotted to training. But the hours of work were so arranged that no pupil could fail to have two or three hours in the open air after school time, and that without neglecting his home work. This was secured as follows:—

On three days a week, the work on the fifth (or highest) class continued from 9 a.m. to 12.20 p.m.; for two days a week, from 9 a.m. to about 2 p.m. For the three short days there was no play interval. The pupils went home for the day at 12.20. For the long days there was an interval of twenty minutes or so, and the second part of the day was occupied by a test examination of some sort. On no day were the pupils

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kept longer than to 2 o'clock. Thus the total school working hours were about nineteen per week of five days, or an average of nearly four hours a day. But on three days the hours never exceeded three and a half. No lesson was longer than half an hour at a time. The home work to prepare normally should occupy three to five hours. This was made possible by the freedom of the afternoons. The recommendation was to spend some time of every afternoon in the open air, and this was done.

Forms of exercise.

The exercise indulged in was very little; occasionally cricket or football, walking, long walks on Saturdays, occasionally rowing. I may say of rowing that my experience was that it was a vanishing quantity. It did not amount to much, but still I think it right to mention it. But exercise did not occupy a large part of anyone's time or thought. When I say exercise I mean systematic physical training.

The lower forms had slightly longer hours. The intention of the shorter hours of the higher classes was to encourage individual reading. But no class was detained after 2.30 p.m.

I cannot recall any nervous breakdown under the strain of work, which continued from October to Christmas, with ten days' interval; from January to March, with ten days' interval; from April to June, with six weeks' interval; and then August to October, with ten days' interval. As a rule no members of the fifth form remained at the school more than the year necessary to pass through the form.

Deductions from their example.

The deductions I make from these facts are:—

(*a*) That experience had shown that concentrated work, with long rest following, and much individual freedom, favoured high tension of intellectual work.

(*b*) That the absence of systematic exercise was more than balanced by the time in the open air and the freedom from strain.

(*c*) That the absence of physical training according to a system was never felt; that the habit of relying on simple walking in the open air conferred staying power for future work at college, and that the distribution of work through the day, with short breaks for exercise, would have tended to lessen the tension and, therefore, the quality of work.

(*d*) That it is sound psychology to rely on the fresh hours from 9 to 12 for the organising and developing of impressions, and to let a long rest intervene before preparation is begun.

The same principles could be applied, with appropriate variations, to elementary schools, but how far this is compatible with the Code I have not considered.

Physical training in secondary schools and universities not essential.

My main point, however, is that physical training in any systematic form cannot, in the light of these facts, be regarded as essential to the higher work of secondary schools and universities in Scotland.

In the remainder of this statement I shall follow the order of the questions put in the 'terms of reference.'

Measurements and standards.

On the standards of height, etc., the proportion of mentally defective or physically defective children, etc., I have no data of any value. Unless the Commission have already been referred to Sir Frederick Treves' article on 'Physical Education' in Stevenson and Murphy's *Principles of Hygiene*, Volume I., I should like to bring that under their notice. Probably it has already been produced, because it contains an analysed criticism of a great many measurements of heights and the value of exercise, the classification of different pupils, and so on.

Are country children physically or mentally superior to urban children?

Country and urban children: former superior: causes.

On the whole, I think that (*a*) the staying power, (*b*) the standard of attainment, especially in width of experience, are in favour of the country children as against the town children. The causes of this are such as the following:—(*a*) Longer walks to and from school; (*b*) greater proportion of time in open air; (*c*) better average feeding—milk, meal, vegetables, etc.; (*d*) wider experience of life at a slower pace. Whether this means greater ability, on the whole, I am unable to say. A rough test of the quality of ability prevailing in the rural districts of Aberdeenshire may be obtained by examination of the Aberdeen Bursary Competition lists, where, particularly in the case of girls, the country schools more than hold their own. That fact is based upon an examination of the last three years of the bursary competition in Aberdeen. I should like to add, however, that owing to the recent university ordinances the bursary competition has been separated from the entrance examinations as such, and the result is that it ceases now to be a very fair test—that is to say, it cannot be a very fair test as it was before those ordinances came into force. That is seven years ago. The town schools that send forward pupils are to a certain extent supplied from the rural districts, and thus the comparison cannot be made accurate; but when I taught advanced work in a private school, I got the impression that, on the whole, the balance of faculty was in favour of the girls bred in the country. I have noted many examples of this. Apart from the general causes mentioned above, one cause operates powerfully in favour of the country school, namely, the concentration of effort on few subjects, and the absence of social distractions, which, both for boys and girls, constitute, in my opinion, the greatest obstruction to individual education. Further, I found that even so small a matter as coming from the country to the town by train, though the distance were but a few miles, tended to affect the attention adversely. The cases within my personal experience, however, were too few to justify any general assertion, and the difference between the programme of studies in town and country was always a confusing complication in the estimate. The leaving certificate examinations should offer now some fair indication of the relative proportion of over-average ability in town and country schools. It is, apart from school work, certain that, owing to the openness of country life, to the number of activities accessible to country children as compared with town children, to the comparative slowness of country operations—threshing, ploughing, reaping, hay-making, turnip hoeing, cow-keeping, shepherding, and the like—a country child of the farming and farm servant classes and middle classes (or the rural grades corresponding to the middle classes) has innumerably more opportunities of becoming acquainted from infancy with the processes involved in farming, with the management of animals—horses, cows, sheep, pigs, hens, pigeons, etc.—with the phases of rural nature, the habits of wild animals, the varieties of wild plants, the formation of streams, the appearances of rocks and soils, the making of roads, and a multitude of other matters that normally constitute the primitive basis for future acquisitions in science. And this is not dependent on the fact as to whether the country teacher exploits those activities in his teaching or not. They are the normal environment of a country child, and as the functional development of the brain is affected by environment, I should say that we may reasonably expect the country child, not only to know more of a greater world than is accessible to the town child, but to exhibit the increased capacity that necessarily flows from the larger experience of life. Over the town child the country child has yet another advantage—he has unlimited space for play in the open air, and the police do not interfere with his game of football on the streets. As an example of the kind of responsibility looked upon as normal in the country, I may say that it is not uncommon for a boy of ten or twelve to take charge of a horse unsupervised, and for a girl of the same age to manage all the essential parts of housekeeping. In towns, the responsibilities imposed on boys differ somewhat from those imposed in the country; but as to girls, my experience has been that town and country are fairly matched. A girl of ten to twelve in Leith and in Galloway is usually able to take charge of the house in her mother's absence, and to give the family histories of her younger brothers and sisters.

Adv... of co... child...

Town a... country children compari...

These considerations, however, must be qualified by the fact that, as a result of the greater stress of living in the town, a certain selection takes place, the alertness typified in the street gamin becomes accentuated, and the nervous capacity is more developed in more

special directions. Hence to the superficial eye the town child is smarter than the country child, and as he usually takes the available infections early, he may even pass through school life with less interruption from illness than the country child; but I think the greater staying power remains ultimately with the country-bred child, even when he has to face the ordeals of the town infections. This applies, however, to country children properly so called. The conclusion is, on the whole, confirmed by the fact that in Leith, while the infantile death-rate, *i.e.*, the death-rate per 1000 births, is fairly high—running from 117 per 1000 births to 170 or thereby—the death-rates at the school ages are very low, from 3 to 10 per 1000. These I quote from memory, but the averages are accurate enough. I had occasion to make a comparison between Edinburgh and Leith. It was a comparison between different classes of children, and on the whole Leith came out best, that is to say, slightly below at all the different ages. It is not a matter to build very much upon. This I attribute partly to the fact that hitherto the Leith population has been recruited largely from the vigorous families of the surrounding counties, Leith being to a great extent a transit town, where carriers and horsemen of every variety are much in request. My work as a county medical officer of health lay chiefly among the dairy farmers and the villages of Galloway, which is largely pastoral. Of other varieties of Scotch children—for example, miners' children—I have had no experience.

Are country children improving or degenerating?—I know of no Scottish observations on this point. My impression is that the selective action of School Boards in Scotland, and the continued improvement in the administration of the Poor Law, tend rather to eliminate the hereditary degenerates from the country; but in the absence of any sure marks of degeneracy, other than marked idiocy, or imbecility, or feeble-mindedness, or epilepsy, it is difficult to speak with certainty. To judge, however, by a visit I recently paid to some of the lodging-houses and farmed-out houses of Glasgow, I gather that there exists in the large towns a dangerous concentration of the lower loafer classes, who, with the corresponding women, are apt to produce fresh crops of degenerate children.

On this question of degeneration, however, I consider that the possibility of fallacy is very great. I have frequently attempted to estimate in what human degeneration consists, and my conclusion is that, apart from certain gross forms, indicated by the terms feeble-minded, arrested development, idiocy, and the like, the data available for determining the upward or downward tendency of groups of human beings is of the most vague and unsatisfactory kind. What is popularly regarded as the degeneration of the slums—the variety partly indicated in the Glasgow lodging-houses—is largely a 'generational' degeneration, and depends not on hereditary disposition, but on environment. Environment includes housing and nurture. I call this form of degeneration 'generational' to indicate that it is or may be confined to the particular generation concerned, and is capable of removal by the improvement of the environment—improvement, that is, in housing and nurture. It is also capable of arrest by transplantation of the individuals. Such degeneration as I mean is exemplified in rickets, anæmia, tubercular bone disease, and the multitude of diseases that result in deformities, in impairment of physique, in malnutrition of nervous systems, with consequent mental deterioration. If the official list of diseases be carefully examined, it will be found to contain an enormous number of ailments that depend directly or indirectly on the influence of the environment. With the infectious diseases this is too obvious to require proof. One illustration is enough. Within the town of Leith there is a thickly-populated area, with tenements, and there is a thinly-populated area, mainly occupied by villas. In the thickly-populated areas the residents are chiefly industrial—dock labourers, carriers, iron-founders, and so on. In the thinly-populated area the residents are mainly middle-class merchants, or lawyers or bankers, or shipowners, or others of similar grade. The great mass of infection comes from the thickly-populated areas; it is a comparative rarity to get diphtheria or enteric fever or even scarlet fever in the thinly-populated or villa area. When, however, a milk gets infected—that is when the food environment is interfered with—the susceptibility of the children in the villa area becomes as manifest as the susceptibility of the children in the tenement area. The inference is that the improvement in the environment will result in elimination of the infections concerned. But by eliminating these we at once stop at the source a huge percentage of ear disease, of meningitis, of bone disease, tubercular and other, of rheumatism, scarlatinal and other, of predisposition to heart disease, of nerve degeneration (as in diphtheria), and of all the common complications of the infectious diseases. When the infections and their sequelæ have been thus eliminated, when the malnutrition diseases have been eliminated, when, either by altering the environment or transplanting the children, the organism has become free to respond to the stimuli of light, air, and suitable food, it will be found that much of what has been taken for hereditary or transmissible degeneration is really confined to the individual generation, and is evanescent. I do not say that the transmissible degenerations, such as too thin skins, or tendency to glandular troubles, or certain forms of insanity, can be eliminated by change in environment. These—the transmissible degenerations—involve the question of suitable selection of parents, and I do not offer any suggestion here on so great a problem. What I wish to emphasise is that the scope for improvement by improved nurture is almost unlimited. Consequently, the benefit from suitable physical training is almost unlimited. As an illustration of what regular cleansing and regular feeding can do, I mention only my experience of some 1600 children treated in Leith Infectious Diseases Hospital. The improvement in look, in firmness of tissue, in alertness, in weight, and in general physique was, even in the short periods of hospital detention, so great as frequently to evoke the astonishment of the parents. I frequently noted, however, that on seeing those children some months after, there were distinct evidences of the return to pallor and feebleness. Every industrial school I have visited shows a similar improvement. In such cases the sole difference is a difference in the regulation of the life.

Benefit from suitable physical training.

How much can physical training in school do to counteract the effects of bad environment?—Let me state some of the conditions whose effects are to be counteracted. During six years as medical officer of health in Leith, I had to inquire into the housing of some 3600 cases of infection. Two thousand cases were, on account of improper lodging, removed to hospital, and a much larger percentage could legally have been removed. I may add that it is part of my official duty to scrutinise all the reports of the Medical Officers of Health and Sanitary Inspectors of all the Local Authorities in Scotland, amounting to about 320, and these facts are everywhere confirmed; it may be taken as an established generalisation. From observation I find that the children in a family were rarely less than three, and that the inmates of a two-roomed house were rarely less than six. The Census returns give the exact quantities; but the Census must here be misleading, for the number of rooms given in the Census is never the number of rooms habitually used. I do not wish that statement to be misunderstood; it is a necessary effect of the census figures which have to enumerate all the rooms in the house with the population at the given moment; my point is obvious later. For practical purposes, a two-roomed house and a one-roomed house do not materially differ. The kitchen is habitually used as bedroom, washing-house drying-loft, cooking-room, eating-room, sitting-room and study. This is the result of economical conditions In this, Leith is fairly representative of the Scotch towns, being probably better than the larger towns Consequently, even the good artisans' houses are normally so used as to produce, in some degree, the

Counteraction of effects of bad environment: conditions to be affected.

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Over-crowding.

same results as overcrowding—namely, anæmia and malnutrition and nervous depletion and irritability, not to speak of minor local disorders, like skin diseases. And this apart from the major overcrowding, of which the instances are legion. Physically, overcrowding means bad ventilation, germ-laden air, too much organic impurity and carbonic acid, too little oxygen. Physiologically, it means perverted nutrition and exhaustion. In summer, these results are to some extent neutralised by life in the open-air. In winter, they are exacerbated. But for a minimum of some ten hours of the twenty-four, and for a maximum of some fourteen hours, the effects of overcrowding are being constantly produced. As a partial confirmation of the summer relief and the autumn exacerbation, there is the seasonal variation in scarlet fever, which falls to low-water mark in April and reaches high-water mark usually in October. Want of sunlight contributes to the same results as want of air.

Necessities for children: air and light; exercise.

The first necessity for children nurtured in such home is air and light; the second necessity is exercise. Play in the open-air is a counteractive to the overcrowding; but physical training in school cannot be regarded as equally so; for the increased pollutions due to exercise in school put the ventilation even of the mechanically-ventilated schools to a severe strain. Physical drill, except with wide-open doors and windows, or in the open air, cannot in my opinion be regarded as other than a further uncompensated output of work-energy by the child. I may here add that drill of every kind, except, perhaps, musical drill, involves a severe nervous strain on young children. I am informed that during drill of infants—that is the technical Board School infant, five to seven—the requests for permission to repair to the urinal increase perceptibly.

Form of physical training recommended: exercise in open air; organised but not supervised by teachers.

Consequently, I consider that the only form of physical training that can in any degree counteract the persistent results of overcrowding is play or exercise in the open air—preferably the form of exercise that is not supervised by any teacher or person in authority. Perhaps I should say those not obviously supervised; it may be organised, of course. Wherever a teacher is present the play ceases to be spontaneous, and then involves the same cerebral waste as work.

Illustrations.

As illustrations of what can be done by physical training, when associated with radical alteration in the environment, I instance the North Lodge Industrial School for Girls, Aberdeen, as it was some ten years ago. The children were drawn from the Aberdeen slums; but by management and training, they were so improved physically that, in free gymnastics their teams, in open competition with other schools, won the challenge shield so often that they had to be put out of competition. I have seen one of their teams at exercise, and the physical superiority was manifest. The girls wore no corsets. Another instance of the same kind is the Market Hall, Leith, where physical training has produced good results. A third instance was brought to my notice by ex-Bailie Gibson, Leith, who trained a football team from a school in the slums to beat teams from the other Board Schools. During play they were fed on beef-tea, and I understood that some care was taken with their nurture—clothing and feeding—in the intervals between matches.

Country children: exercise less urgent: supervision objectionable.

Does the work or exercise of country children dispense with the need of systematised exercise for them?—From the considerations advanced above, I conclude that with country children systematised exercise is less urgent. But the same effects of overcrowding have to be counteracted. It is a popular impression that housing in the town is very much superior to the housing in the counties. That is in certain large general respects true, in that the streets are more crowded and badly lit, but in the individual houses my experience is that there is not much to pick and choose between the quality of the houses in the corresponding classes, that is to say, that the rural houses are neither much better nor much worse than town houses. If 'systematised' exercise means 'supervised' exercises, then, in my opinion, the less of system and supervision there is the better for the children.

Physi... and b... impro... nurtu... fatigu...

Does improved physical development entail improvement in brain power and in acuteness of the faculties?—In my observations of hospital children, I have not been able to separate the kind of physical development due to training from that due to nurture—feeding, clothing and cleansing. Up to the age of puberty, the results due to training, as distinct from feeding and play, are difficult to distinguish, and it is not essential to distinguish them, since work does not usually begin until after thirteen. I always found in the hospital children a marked inclination to resume school work and 'play at schools.' The physical development due to nurture does not, in my opinion, interfere with intellectual development. But when physical training is pushed to the point of fatigue, and becomes a conscious and systematic matter, the effect is a certain reaction against intellectual effort, much in the same way as with daily labour. This becomes marked, I think, when adolescence is established. New emotions tend to inhibit the impulse to play, and the voluntary effort to secure the same result—as by volunteering or club sports—is more exhausting and, therefore, less favourable to intellectual interests. More distractions supervene, and, in ordinary life, the brain is apt to be less exercised in specific directions. At this period of life, something is almost certain to be overdone—it may be muscle, it may be nerve, but the condition is always unstable.

Physi... and m...

Does improved physical development imply improved moral?—Within limits, yes. But, as pointed out above, there is always a danger of reaction from excessive physical toil, whether it be work or merely training. The moral question practically does not arise until adolescence begins. The relation between physique and moral capacity is a very indirect one. The saints have never been conspicuous for good physique. The very conscientious man is usually dyspeptic. The morals of the football field are not strikingly superior in any respect to those of sedentary life.

Morali... influen... school... home?

Does improved physical development promote morality?—The mere animal result of physical training is not, in my opinion, of much importance, either for or against morality. But the methods of securing the result are important. Sensitiveness to the obligations of honour is encouraged by sports like cricket, and, provided the teachers have tact, the same sensitiveness may be established in regard to the major virtues. In Board Schools, to children of six to twelve, morality cannot be secured by anything short of the finest efforts of character, and the bad effects of home life, as I have indicated above, are a constant counterpoise to the influences of the school. I should not wish to suggest that the benefits of home life are always bad, but I mean such bad effects as I have indicated earlier are really undoing a great deal of what is done in the school.

The witness withdrew.

Adjourned.

FOURTEENTH DAY.

Tuesday, 10th June 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Professor OGSTON.
Mr M. H. SHAW STEWART, M.P.	

Mr R. B. PEARSON, *Secretary.*

Mr W. LESLIE MACKENZIE, further examined.

Mr W. L. Mackenzie, M.A., M.D. 10 June '02.

6984. *By Professor Ogston.*—Would you be so good as to resume your evidence where you left off—at the Physical Census of Children?—Physical Census of Children.—(1) Is it desirable?—I think it is. It would make possible a more scientific classification of children than the single point of age in years. It would enable the teacher to eliminate the feeble, or defective, or badly-nourished, or deformed. It would make a more scientifically-graded progress possible. When I say eliminate of course I understand eliminate within the conditions of the School Board. I am always thinking of it as the practical problem, and I should imagine that it would enable the teacher to separate these and to advise such special treatment as each particular group of cases might indicate.

(2) Is it necessary?—If the present exactions on the nervous and alimentary systems of children are to be kept from doing harm, I think such a census is necessary. At present, so far as I am aware, there is no systematic effort to distinguish the enfeebled from the strong.

(3) In what ought it to consist?—The following seem to me the main requirements:—

Age, height, weight, employment of parents, approximate age of parents (this would enable the medical man to put a value on any neurotic phenomena in a child's history), eyesight, hearing, teeth, general nutrition, deformities, condition of skin, heart, lungs, joints, vital capacity, size of head, previous illnesses—infections, etc., vaccination, glands, throat. In actual practice, from the public health standpoint, there is no question whatever that the condition of the throat is in my experience much more important than any—throat and glands, because the throat is associated with several varieties of malady, diphtheria and scarlet fever, and these are the most troublesome diseases in school.

Is inspection of the health of school children by a medical man necessary at present?—Yes, I think so, and have long advocated this, chiefly on account of school epidemics. Diphtheria, scarlet fever, measles, whooping-cough, chicken-pox, scabies, ringworm, favus, and several other communicable and common diseases may spread by schools. This could, in my opinion, be practically ended by systematic medical inspection. The same arguments as justify medical inspection of the police and post-office services justify the inspection of school children. I may interpolate here that in Leith, in particular, the School Board were extremely exacting in the application of the Infant School Clauses in the 1897 Public Health Act, with the result that practically since that Act came into force in the beginning of 1898 school epidemics have disappeared in Leith. They found difficulty in applying it to every one of the minor and non-fatal ailments like chicken-pox, and so on, but for the other things they have done extremely well. For girls' schools and infant departments, lady doctors are now available in many cities. The work of inspecting need not be so laborious as the number of children would suggest. Each school should have a medical man attached. This is the case in industrial schools. The results are good. In these cases, of course, the industrial school is *in loco parentis;* but to the extent that school attendance is compulsory, so is the School Board. Diphtheria is steadily gaining ground in the towns, and this is probably due to the persistence of mild cases without gross symptoms. Medical inspection of throats would go far to reduce this troublesome and very fatal disease. On that question of diphtheria, which is only an illustration here, an enormous amount of evidence has been accumulated by Dr Sims-Woodhead for the Metropolitan Asylums hospital cases, including an analysis of something like 14,000 cases in detail, and on the whole it establishes the same conditions.

No violent physical exercise without medical inspection.

Will it become necessary if physical training be increased and rendered more systematic?—Yes. I should make it an absolute condition that no child should be permitted to take part in any drill involving violent physical exercise without medical sanction. In public secondary schools this is even more important. The 'point of honour' is here the real schoolmaster, and a boy should not, in any circumstances, be considered odd or erratic if he declines to take part in severe and continued games like football or long running. But, in any case, I consider that games are better left to the spontaneous organisation of boys or girls by themselves, and the conversion of games into drill is a more than doubtful good. I do not, of course, say that the facilities for games should not be organised by the authorities in charge of the school.

NOTE.—Neurotic children should receive separate attention. There should be no exercise during the week of menstruation. That is a point that so far as I am aware teachers are not really fully awake to in girls' schools. I think it is looked upon with a certain delicacy, and quite properly so, but I do not think that enough allowance is made for it in the teaching of girls. There is no question whatever, from my own experience, having a certain amount of medical knowledge at the time—it was quite obvious—that the whole intellectual processes were more or less interfered with for several days during menstruation of girls.

Inspection *plus* disinfection.

Spraying of Schools with Disinfectants.—The inspection of schools should be supplemented by the periodic disinfection of schools. This should be done once a week, or thereby. It can be done very rapidly by means of a spray-pump. All school appliances, such as slates, pencils, pens, and the like, should be as regularly cleaned as the children's hands and faces.

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Walls and forms and floors can be overtaken by the spray with formaldehyde, or some similar solution. The schoolrooms would thus be kept from becoming miasmatic, and their condition would then favour physical training, which should be conducted in the morning, when children and rooms are fresh, and not, as is frequently the case, when the air is exhausted and the children fagged with two or three hours of brain work. Drill is as exacting on the brain as ordinary intellectual work.

Girls: special clothing advisable.

Is special clothing required for girls undergoing physical training?—It is advisable. For young girls the only precautions necessary are: No corsets, loose neck, loose wristbands. For older girls it is advisable to have close knickerbockers, short skirt, loose blouse, no corsets, free neck, free wrists. I may say that these are the commonly prescribed and actual costumes in the schools where free gymnastics are taught.

Forms of exercise differentiated: respective values.

Forms of Exercise.—1. Children of six to twelve.—In the choice of exercises, a clear distinction must be made between (*a*) drill and (*b*) play; also between (*a*) voluntary exercises and (*b*) automatic exercises. Drill always begins as voluntary, and may or may not end as automatic. Play is voluntary, but not as at the word of command; play is, therefore, spontaneous, an expression of the child's individual impulse. Drill, until it becomes automatic, involves voluntary attention. This makes it a drain on cerebral energy. The responsibility to an instructor adds to this drain. Consequently, drill cannot at any time be regarded as relaxation from cerebral work; it is only another variety of cerebral work. From the small amount of military drill possible in schools, I doubt whether the operations ever become automatic. Consequently, drill is likely to remain always a task. Its proper use, therefore, is as a discipline, not as a relaxation or recuperative exercise. It follows that the best time to take it is, as indicated above, when the body is fresh after sleep and rest. It may then act as a stimulant to prepare the way for other intellectual exertion and acquisition. With musical drill, it is somewhat different. The rhythmic response to music is automatic; it involves little or no cerebral waste; it is normally pleasurable. Witness the dancing crowds round the street piano. All drill for children up to

Musical drill.

twelve should be musical drill. That is an obvious impossibility, it is too hasty an expression, and I should like to say that drill for children up to twelve should, as far as possible, be musical drill. A great many school drills can be made musical, or at least supplemented by music, in a way that makes the obvious effort distinctly less and the obvious disagreeableness of it distinctly less. The drill that suits music best—free gymnastics, so-called—are mostly simple movements, easily acquired. The music is itself a subtle stimulus to their performance. But even musical drill has to be done to word of command, and, therefore, retains the main feature of work—fatigue through attention. Hence it is necessarily inferior in nutritive value to play in the open air without obvious supervision.

Games.

On these grounds I consider that the spontaneous games and exercises are the best for promoting physical development. I should prefer such games as exercise large groups of muscles in a varied and diffused way. For example, games involving running and dodging, skipping, hoops, see-saw, top-spinning, 'hippin' beds,'

Skipping.

and the like. Skipping is, I think, the best of all, particularly for girls. A young girl (say of ten) will skip 50 to 100 times consecutively, lifting the whole body 4 inches off the ground each time. If she skip 60 times she raises her body the equivalent of 20 feet. To do this in ordinary gymnastics, climbing a rope or a ladder, is a good feat. But the climbing requires concentrated effort of relatively small muscles, and the strain on the heart is enormous. Skipping accomplishes the same amount of work in a more diffused way, and the result is improved respiration, improved circulation, general exercise in rhythm, balance, co-ordination of hand, foot, and eye. I might carry the analysis much further, but this is enough to show the immeasurable superiority of skipping as a recuperative exercise to feats of strength, as most gymnastics are (*e.g.*, parallel-bars, leaping the horse, climbing ropes or poles, the hanging or rising ladder, the moving or fixed trapeze). On the principles stated, I consider these mechanisms entirely unsuited for any school purpose for children under twelve. That is a very strong statement to make, but I am quite prepared to adhere to it. The lighter gymnastics, such as light clubs, or dumb-bells, or elastic tension bands, and the like are on a different footing. They remain adapted to the strength of the pupil; they are yielding resistances; they may be profitably used to give interest to developmental exercises. But I should like to emphasise the distinction between the value (nutritive) of play and the value (disciplinary) of drill.

As to military drill, I see no great value in it beyond what is included in all forms of drill. The essential points in military drill are the turnings and the forming of marching columns. I speak here subject to correction, because I am not very familiar with army drill. The essential ethical point is automatic obedience to the word of command. For certain limited purposes of discipline this is no doubt good, but I have never found in the soldier or the volunteer any such superiority in conduct as would lead me to attach any special moral value to his particular and, to my mind, somewhat dull form of drill. If I were requested to choose some form of the Service drills as a school model, I should choose the form that shows the most variety, spontaneity, and resource; that, beyond controversy, is the naval drill. And, indeed, I know of no more perfectly-fitted environment for certain types of boy than a training ship. The recent wars offer some confirmatory illustrations of this.

As to self-defence—boxing, shooting—I offer no opinion. They have no place in a curriculum for children under twelve.

Swimming is different. It is an activity useful in itself, pleasant, and not readily abused. Precautions: strict medical supervision from time to time. For girls, instruction of teachers in the dangers during critical periods. I say instruction of teachers, because I should not wish to suggest that the consciousness of girls should be excited at too early a period on matters affecting their sexual development. Consequently, I think it is important that teachers should be taught, but they should also be taught the dangers of interfering too much. Precautions in the pond: a time-limit in the water, avoidance of long diving, no long racing, attention to ears.

I should like to bring under the notice of the Commissioners an article that has just appeared in the June number of *Public Health*, by E. E. Glyn, M.A., M.B. (Cambridge), who made a bacterial investigation of the water of the Public Swimming Baths of Liverpool. It is an abstract of a paper read at the Liverpool Medical Institution, March 20th, 1902. If the Commissioners would allow me I might read a little part of that, or I might hand it in. I shall omit the more technical part of it. He writes:—

'The majority of observations were made at baths 'which were filled with fresh water every morning 'always derived from the same source. This water was 'practically sterile, containing fewer than 3 bacteria 'per cubic centimetre. An hour after the baths were 'opened the water gave 46 bacteria per cubic centi-'metre; these were derived mainly from the air and 'the walls of the baths, as a series of experiments 'showed that at the temperature of the baths (21° C.) 'the organism concerned—that was, those which grew on 'agar at 37° C.—did not multiply to any considerable 'extent. During the eight hours of the night the num-'ber of bacteria, therefore, rose from 3 to 46 per cubic 'centimetre; if this rate of increase were maintained, 'at 9 p.m. the number should be about 200 per cubic 'centimetre. The examination of the water in the first-'class plunge bath at 9 p.m. on five different occasions 'during the months of June and July gave an average 'of 4,676 bacteria per cubic centimetre, the average 'number of bathers being 292; samples collected in the

'second-class baths on three occasions contained an 'average of 11,970 per cubic centimetre, the average 'number of bathers being 186. A calculation based on 'the capacity of the baths showed that the water 'removed from the skin and hair of each bather 'between four and six thousand million bacteria, 'excluding moulds and others which did not grow at '37° C. One source of pollution of the bath arose from 'a tiled corridor about 4 feet wide running round 'between the edge and the dressing-boxes; on this 'both the bathers and those waiting walked, with 'the result that soon after opening this was more or 'less muddy. To avoid this a bath should have two 'corridors—an inner one between the bath and the 'boxes, another outside the boxes, the latter being open 'back and front. With regard to the organisms dis-'covered in the water, streptococci were never found; '*Staphylococcus aureus* and *citreus* very rarely; *Staphy-*'*lococcus albus* was abundant in three varieties—'*pyogenes albus*, *epidermidis albus*, and *cereus albus*. '*Bacillus coli* was present in the bath at the end of the 'day to the number of 8 per litre for each bather in the 'first-class, and 48 for each bather in the second. Some 'who bathed constantly in the open complained of 'lassitude after swimming in a public bath; this could 'not be due to the quality of the water, but to its 'temperature and to defective ventilation. Liverpool 'was peculiarly fortunate in the number of its baths and 'the excellence of the water supplied to them.'

I may add that in one public bath known to me, in order to reduce the necessary pollution of the water or the rate of the pollution, outsiders, before going into the plunge at all, are requested to have an ordinary bath first. That indicates to my mind that to get the full value out of school baths arrangements ought to be made for specific baths for school children quite independently of the general public. That would be subject to this condition, that in the very well-conducted baths where illimitable sea water is available the objections of course would be very much reduced. I am not able to say whether these are representative statistics, or whether they are very favourable or very unfavourable, because I have no other data.

2. Children of twelve to fourteen.—Special attention to critical period in girls. Absolute avoidance of exercises during menstruation. Instruction of teachers in this. Provision of seats for pupil teachers. That is merely an administrative point, but not unimportant.

3. Children of fourteen to eighteen.—I have already indicated my opinions for the increasing ages. Three instances recently came to my knowledge to show the dangers of indiscriminate exercise without direction:—

(*a*) A lad of sixteen to seventeen ran, walked, jumped, cycled, swam, shot; member of a private secondary school where 'physical training' is a primary part of the programme. Result: dilated heart. Prescribed rest for a year or so. I may add that he belonged to the aristocracy, and had every possible advantage of good nurture and its concomitants.

(*b*) A university student, aged twenty. Considerable discrepancy in age between parents—father older. A good runner. Hunted with 'harriers.' Long runs; also fast runs. Attended university classes at same time. Result: nervous irritability; insomnia. Rest for several months.

(*c*) University student, *ætat.* about nineteen. Ran with 'harriers' for a summer. Of nervous history. Result: irregularity of heart, with signs of aortic incompetence. I may add that I saw that young man, who is now twenty-six, only half an hour before leaving home, and although he has had a sea voyage, and taken rest of various kinds, he dare not begin cycling again, and even although he is personally robust and muscular, well-developed—he is a medical man—he must exercise great care.

I am informed by those more intimate with sports than I am that varicose veins and dilated hearts are not uncommon among runners and football players at certain secondary schools. I should like to add there, however, that as pointed out by Sir Frederick Treves, these conditions may be partly constitutional, and merely accentuated and not produced by running and playing. I think it fair to say that. For special purposes, such as military or naval training, these violent exercises may be justified. My opinion is—and Sandow's exhibitions confirm my opinion—that better results without the sequelæ can be obtained from mild and non-violent exercises. I do not see why the uncriticised ideals of the drill sergeant and the acrobat should be made the model for the free evolution of school life.

As to effects in the healthy.—1. Eye diseases.—I have no observations to make on this. Exercises are certain to result in the discovery of defects, which, however, would be provided for by medical examination and the physical census. As an illustration, I may take my own personal experience. I was not aware that I was short-sighted until I was fifteen. Nobody had discovered it, although it was quite marked, and during the time that I was resident in the ophthalmic department in the Aberdeen Infirmary, I frequently found very bad cases of short sight, where the children were scolded and slapped because they could not read. In one case a boy of nine was so defective in vision that he needed about two degrees from the highest lens used for short sight before he was able to read a letter of three inches at a distance of twenty feet; that is to say, he had tremendously far distant vision, but his near vision was practically not there, and the result was, of course, that he was a nervous, highly-strung boy; a clever enough boy, but quite unable to proceed. A third case came under my notice a week ago, where a mother had been informed by the oculist that her boy was so short-sighted that he could not read at all, and could not be expected to read. He was a clever enough boy, and he always told his mother, 'I could read if I could 'see.' That boy was at school and making very little progress, and yet the defect was not observed by anybody, because they had not looked for it. No doubt exercise and drill would, in a certain way, be a kind of sieve to find out who could and who could not see. The exercises are certain to result in the discovery of defects. A good deal might be done to develop a form of sensory athletics as opposed to merely muscular athletics. To this end ball-tossing is an excellent instrument. Houdin found it the best exercise for enabling him to preserve his fine touch and for educating the co-ordination of hand and eye for conjuring purposes. I may add here that the education of boys and girls in this respect is very unequal, because while girls are frequently taught the piano and fine work like sewing, and so on, boys have, so far as I am aware, no corresponding exercise unless we could name free-arm drawing as now a substitute. I am not aware of any other school exercise that is a real equivalent to the girls' sensory training. A series of graded exercises from one ball to two, three, and four balls can easily be arranged. I have tried the experiment, and there is no doubt about the educative effect on finger-tips and on co-ordination of eye and hand. The incidental nutritive effects are at least as great as in directly voluntary muscular movements. With some patience several schemes for exercising ear, eye, and hand could be devised. Ball-tossing is in itself interesting. Witness the persistence of cricket and other ball games—ping-pong not least.

Defects: will be discovered by exercises.

Sensory training.

2. Spine diseases, etc.—Recently a case came under my notice where, in a girl of sixteen, distinct signs of spine disease were induced by calisthenic exercises in school. I use the word calisthenic to cover the ordinary gymnastics in school. She had to desist. Immediately on resuming she showed the same symptoms. Suitable mild exercises could be applied here, but this is rather for convalescent home than for school.

As to effects in weaklings and those predisposed:—

Effects in weaklings, &c.

(*a*) Rupture.—I have not known of any case.

(*b*) Heart Disease.—See above: children fourteen to eighteen (*a*). This lad was of rheumatic and gouty

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parentage. I think that becomes a thoroughly good illustration of the reasonableness of taking these violent games under medical advice.

(*c*) Joint and Spine Disease.—See instance above. As to general tuberculosis, I think this depends more on nutrition and housing than on any varieties of exercise. I cannot recall any case within my own experience.

(*d*) and (*e*) Fractures and Brain.—No case known to me, except two, connected with Association football. The innumerable accidents of the football field are proof enough of the danger to grown-up players. I do not think that such persistence in football as is necessary to keep the player in good form for matches is, as a rule, compatible with the highest grade of school or university work. There are, no doubt, exceptional cases of great brilliance in sports associated with great brilliance in classes; but among university students I have found the combination so rare that, out of scores of students known to me, I cannot name one that was at once an athlete and a first-class student. In this I confine myself entirely to Aberdeen students, because my experience of Edinburgh students, although considerable, does not entitle me to say much. I can readily name a score or two that were first-class students without being athletic. My observation is that athletics and commonplaceness of acquisition are, in Scotland at least, oftener found together than athletics and brilliance. All the hard students I have known usually needed some tending at the end of the university session. Athletic form is not, in my opinion, compatible with the high intellectual strain demanded of honours students in arts and ordinary students in medicine. I say 'honours' in arts, because the quality of work demanded is high, and 'ordinary' in medicine because the vast masses of detail to be acquired leave too little time for the necessary training. This, I might add, is to a certain extent relieved by the recent reforms in the medical curriculum, which no doubt is slightly different from what it was. In the heavier years at medicine, exercise of any kind is usually the last thing thought about. The man that does think very much about it has difficulty in raising the necessary tension, even for an ordinary pass examination. This, again, is, of course, subject to occasional brilliant exceptions, and I should like to add in making this statement I do not mean to exclude walking and so on—a reasonable amount of walking, an hour or two per day.

Games: athletes and first-class students.

Games: more spaces

Are (1) exercises, (2) games, (3) gymnastics required by the present race of children?—My replies to these questions are indicated generally above. As to town children, more space for play is certainly required. This is demonstrated by the frequency of prosecutions for playing football and other games on the streets. Any organisation that requires the interference of the policeman is defective. Further, a primary necessity is better housing. This is slowly improving under the presence of the Public Health administration. In the rural districts the question is less urgent.

Military drill: ordinary teachers trained.

Is military drill advantageous to the present race of children?—With the limitations already stated, I think it might be made advantageous. But not so long as it is taught by the ordinary drill sergeant. Occasionally, such a man is a teacher; not necessarily so. I should prefer drill to be taught by a trained teacher. This preference is based on the belief that a teacher knows better the ultimate object of the training, and that the army ideal is very abstract, and, in itself, a dangerous ideal to make predominant in early life. It tends to generate an unwholesome elation in destruction, and an equally unwholesome contempt for industrial occupations. Perhaps it is hardly possible to increase the delight in destruction in boys, and I do not wish to put too much stress on that fact, because the normal tendency of boys from five to twelve in imitating one another is destructive.

First aid, &c.

To what extent is first aid, etc., desirable, if at all, in children?—For girls under twelve, all that is important under this head might be included in domestic economy. For boys of the same age, a few simple rules could be taught as an adjunct to physiology. For girls and boys from fourteen to eighteen, first aid, as such, might be taught in association with the elements of personal hygiene. I hesitate to suggest the loading of the elementary curriculum with more specific subjects. Much, however, depends on the training of the teachers.

Self-

Is instruction in self-defence, etc., advantageous or otherwise?—I think it is disadvantageous on the whole. I think it a decided loss that the ideal of good citizenship should be imagined to require skill in the arts of destruction. Boys have other and many opportunities of learning these. They are not, in my opinion, appropriate to the school training of a citizen for life in an industrial community. They are amply provided for outside the school.

Swim

Instruction in Swimming?—I think this beneficial in every respect. Every child should be taught to swim.

Best

System of Physical Training?—Best. A general answer is given above. The essence of a good system is easy movements against yielding resistances; no violent movements. I should like to append to that, that although in actual training violent movements are not to my mind good, ordinary easy exercise may quite properly be looked upon as the training for violent exercise. I would not say that nobody should ever do anything physically violent. That would be nonsense. I think the purpose of training is to fit the body for any emergency of any kind. I should like to make that qualification of that statement.

Out

Out of Doors *v.* Indoors?—Unless the conditions indoors are approximately the same as out of doors, physical training should never take place indoors. Reasons given above.

Gymnasium?—No special experience.

Swimming Bath?—See above.

Girls' Games?—See above.

Football?—See above.

Time

Proportion of Time?—Approximation to time stated as at Grammar School, Old Aberdeen, seems best for that grade of school. I offer no suggestions as to elementary schools, except that drill proper should not exceed half an hour's duration—that is, at any one lesson.

Physical Training—Daily (or Frequently)?—Provided distinction between supervised drill and unsupervised play is acted upon, frequency would not be deleterious physically; but it is apt to encourage exaggeration of the importance of the exercise, and distraction from work.

Military Drill, Periodic or Daily?—See observations above.

Dieta

Dietary.—From the instances I have given, it is obvious that increase of exercise means increase of diet in quality and quantity. If increased exercise takes the form of longer allowance of play, the dietary question might solve itself. If it takes the form of more physical drill (which is work) in school, I do not see how extra provision can be avoided. More drill, with the same food, would be, in my opinion, hurtful in the highest degree. I should think nourishing soup and bread would form a suitable ration for children. The experience of soup kitchens offers a model for organisation. As to incidence of expense, that raises a question of administrative principle, and I prefer to offer no opinion. The remaining questions are dealt with above. I should like just to add to that statement one remark upon continuation classes for industrial pupils. In general, in an industrial community, work begins with boys at the age of thirteen or fourteen, and with girls they begin to go into service and so on after fourteen or fifteen, or shops, and there we are faced with an entirely new factor, because with the boys, as a rule, when they take to physical employment like joiner work, or shipwright work, or engineering and the like, their ordinary occupation involves persistent exercise; consequently anything extra required of them, after a ten-hours' day, ought to be as nearly as possible of the purely recreative kind, and it is doubtful, to my mind, whether much

Conti Class and g

drill could reasonably be expected from that class of person. With the indoor persons, on the other hand, I think it would be a very appropriate thing. With girls it is difficult to know what to do, because the moment they go into indoor life they become anæmic and have very long hours, and, as far as shops are concerned, the fatigue of standing is so great, that at the end of twelve, thirteen, or fourteen hours of it, the amount to fall back upon for drill, or exercise of any kind, is almost vanishing.

6985. Your volunteered statement is so full that I think I can profitably confine myself merely to one or two medical points. And first, to go over the printed statement, you state that physical training in any systematic form cannot, in light of the facts stated, be regarded as essential to the higher work of secondary schools and universities in Scotland; do you think there are many medical men, capable of judging, who share with you that opinion?—Well, sir, I have not discussed the point with many medical men, and I would not be prepared to mention names; I could not say if I know of anybody specially at the present moment. Possibly my opinion is a little extreme, but I am afraid I cannot add to it.

6986. In the second page of your evidence, you bring in a new idea of 'generational' degeneration; could you throw any more light upon that idea to make it clearer to us, because our information hitherto has been that degeneration is a process, that entering into a race, lasts, and is handed down to future generations?—Well, I think I might be able to give one or two additional illustrations that I really intended to put into this statement, but it was so long already that I omitted them. The reason I have used this term at all is that I think it is necessary to make a clear classification of defects: first, those that can be transmitted to future generations, and second, those that are not, as a fact, transmitted, and possibly cannot be transmitted. I should like to illustrate the difference with a single disease. If you take a case of tuberculosis, it may occur from two possible conditions. You may have a constitutionally very feeble person with thin skin—transparent skin—what is known as the fairy type. Such a person is extremely liable to contract almost any infection, particularly tuberculosis. If you had a family of such children, the probability is that a fair percentage of them would become at some early stage tubercular, not because the disease is born with them, but because they are born with a distinct vulnerability to that kind of disease. If you had two parents of that type producing children, their child would accentuate the same qualities as the parents possessed, and would probably become still more liable. But suppose you have an ordinary person without any such special heredity of thin skin or predisposition, supposing he contracts, say, pneumonia, or is alcoholised, and that upon that pneumonia supervenes phthisis—tubercular phthisis—he might die of phthisis, or live for many years and propagate children, but, unless they were directly infected, there is no reason to suppose that they would be phthisical. That is to say, he, not having had any hereditary predisposition, such as a thin skin or the like to contract the infection, but being very vulnerable from having abused his conditions of life so much as to *make* himself vulnerable, will transmit his normal constitution, and his children will be like what he was to begin with, whereas the feeble constitutions (referred to above) *are* transmitted and the children are like what the father is. That, I think, gives a fair indication that in the one case the phthisis contracted from this constitution debilitated through the abuse of life would be generational degeneration, whereas the naturally feeble constitution would be hereditary; the one can be absolutely obliterated; the other also can be obliterated, but only by the selection of individuals and the choice of parents. That is the point, I think. I should like to illustrate it by another example which came to my notice some time ago. Unfortunately I have not all the facts, but it will serve for an illustration. I had in hospital a child of deaf and dumb parents—both father and mother being deaf and dumb. The nurse and the resident physician and myself wondered whether this child could speak. It was ill with scarlet fever, but it was at the speaking age, about three and a half, and after the acute illness passed over we found it could speak quite well. Both parents were dumb. Now dumbness might arise from two conditions, either a constitutional defect in the development of the nervous system; it might be transmitted to children or might not, but still might be transmitted, or it may be due to disease in very early life where the hearing is absolutely destroyed. If the hearing had been destroyed by scarlet fever, and the child grows up dumb, that dumbness would not be propagated to the next generation, whereas dumbness due to constitutional defect might be propagated. On the other hand, it might not, because sometimes these physical defects skip a generation, and perhaps appear only in the second or third generation following. Therefore again I think you have a clear separation between the generational defect of dumbness due to artificially produced deafness and dumbness due to imperfect development. Now the point for investigation is, how much of what passes as dumbness and is popularly supposed to be capable of being transmitted to the next generation, or succeeding generations, is really due to artificially produced causes, like disease in early infancy or even intra-uterine disease, which is quite a possibility. I think these two illustrations bring out the points clearly.

6987. It might perhaps bring them more close to the question that we are dealing with in this Commission if I ask you when a healthy man coming from a country district, and carrying into a town his full vigour and strength, produces children who are in a worse environment—an urban environment—and they are small and stunted, and perhaps children in similar urban environments are small and stunted, does it necessarily follow that that stunting is a permanent degeneration of all the future races that those will propagate, or is that a generational degeneration which would pass if the fourth generation were well fed and well trained?—I think, sir, it is mainly, if not entirely, an evanescent degeneration; that is, if the conditions were kept on long enough, ultimately you might get a permanent degeneration, but that would take a vast number of generations to produce, whereas in the third, fourth, and fifth generations I believe that improved conditions of nutrition and environment would restore the same figure as before. Degeneration: permament or temporary.

6988. So that what we hear about town degeneration is not necessarily a condition that would be at all difficult to eradicate with proper environment and food?—I think a large part of it could be entirely eradicated; I do not say all. I especially guard myself against that.

6989. Now the next point; have you any knowledge of what numbers are weakly, are maimed?—No, I cannot say that I have any data on that point at all.

6990. In the third page of your evidence you speak of a certain tendency of children to retire as indicating that the mental nerve strain upon them is too great?—Yes. Nervous strain.

6991. You think that that is pretty good evidence of nervous strain, do you?—I do think so; I think it is an index of brain excitement.

6992. It is a new point to us, therefore I ask it. Referring to your evidence generally, are you against compulsory physical training in universities and secondary schools?—Yes, I should certainly be against compulsory training in universities. I speak with more hesitation about secondary schools, because schools lay themselves out for particular purposes to such an extent that in one school it might be appropriate, in another not; but in the type of schools, for example, indicated by the Grammar School, Old Aberdeen, and its modern equivalent, I should certainly go against compulsory physical training. Of course I indicate a way of safeguard, that, in any school, such physical training should be done under medical advice. I should say Gordon's College, Aberdeen, Universities and secondary schools: compulsion.

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would be a fair type of the modern equivalent of it.

6993. The last question—referring to your printed evidence—is: It has been stated to us that a part of a good physical training is to develop reserve capacity, so that while reasonable exercises are ordinarily used, there should for short periods, and exceptionally, be the utmost exertion of say the functions of the respiration; do you exclude such training of the reserve capacity in your ideals of a good physical training?—No, I do not, because my experience is that almost any exertion that you choose to take becomes, at some point or another, extreme. Take even cycling, for example. It may be made an extremely mild exercise; it may, quite unconsciously to the individual practising it, become, all of a sudden, a very violent exercise, and every mild exercise that you choose to indulge in may quite well be pushed by the individual children—boys particularly—to a point where it does necessarily evoke the reserve power that you speak about.

Development of reserve capacity necessary.

6994. Should you, therefore, approve of the reserve power being cultivated to a certain degree under proper precautions?—I do; I think it is necessary.

Saturday holiday necessary.

6995. Well, here is a different point; do you think that the Saturday holiday is a necessity?—Yes, I do, sir.

6996. You unreservedly say so?—Unreservedly.

Board School curriculum: opinion.

6997. Have you any reason to think that the present School Board's mental training is excessive?—I should like to speak with hesitation about that, because my recent knowledge of School Board work is less than it was; but my impression is that it is excessive, not so much in the quality as in the variety of the subjects asked from children. Judging by the conversations I have had with business men in Leith, they all tell me that boys learn a little of a considerable number of things, but do not learn anything very thoroughly. I should think it would be a greater advantage to reduce the number of subjects, and to make the culture in them more intensive.

6998. And from the point of view of health, have you ever known the present mental training under the School Boards injure?—I am trying to recall instances within my own experience, and I could not give at the present moment any specific examples of distinct injury.

6999. So that you have no very strong reason to believe that it has been?—No, I must say it has been my opinion; I speak with hesitation about it.

Medical inspection: duty of medical officer of Local Government Board regarding school premises.

7000. *By the Chairman.*—In your capacity as Medical Inspector to the Local Government Board of Scotland, do you consider that you have anything whatever of a responsible nature to do with schools, or children at schools?—Well, except so far as they touch the question of public health administration.

7001. I mean on the question of public health?—It becomes a very important public health item in the spread of infection.

7002. Will you please answer what I ask; do you consider that you have any responsibility in that capacity to do with either schools or school children in Scotland?—Not directly as such, my lord.

7003. You consider you have no responsibility in the measure?—None of an educational kind.

7004. I am not talking about education, I am talking about a question of health?—I do not quite grasp your point, my lord.

7005. With questions of public health of the public school children in Scotland, do you consider that you, as Medical Inspector to the Local Government Board, have any responsibility or not?—Well, I must ask you to excuse me, for I cannot quite answer the question directly, because all schools and school children and so on are subject to the inspection of the Local Government Board, just like all other institutions.

7006. Very well then, the answer is 'yes,' in that case?—Yes, that is quite true.

7007. That is all I want to know?—I did not quite grasp your question.

7008. *By Sir Henry Craik.*—With regard to that, do you consider that your duties as Medical Inspector lay upon you the responsibility of individual examination of any one school child or other?—No, I do not think so.

7009. Therefore the responsibility that you consider rests upon you would be with regard to the sanitary arrangements of the school?—Quite so.

7010. Not with regard to the individual scholar?—Oh, not with regard to the individual scholar at all; no.

7011. Now, coming back to the order of your evidence, you refer to the 'Old Aberdeen Grammar School'?—Yes.

7012. That, as we all know, was a school of very high class, of very high tradition. Do you think it corresponds exactly to any class of school that now exists?—Not exactly, so far as I am aware.

7013. Its curriculum was of a very excellent, somewhat restricted, sort?—It was restricted, as I state—the subjects.

7014. There is hardly any secondary school that would now not try to take up, whether for good or ill, a good many additional subjects?—That is so, and, indeed, in the later years of the grammar school itself they did take up other subjects, I know.

7015. The pupils of your school were a selected class, I think, rather a picked class, from the country schools of Aberdeen?—Well, I have so stated, but they were selected not in the physical sense.

7016. No, but how?—But as probably more prominent boys in the elementary schools.

7017. Quite so, but they were all boys who had had the advantage of careful and probably more than respectable parentage, and who had special capabilities, physical and mentally; they were a selected class?—These things are all comparative, of course, but I should not be inclined to say that they were in any sense more selected than the boys who attend, say, the Grammar School of Aberdeen, from the middle-class of Aberdeen taken indiscriminately.

7018. But taking the ordinary State-aided schools, surely they were more selected than these?—Yes, oh, yes.

7019. And, as a fact, you say in your evidence that Dr Dey made it impossible for idlers or triflers to remain in school?—That is so.

7020. Well, of course we cannot get rid of idlers or triflers from the State-aided school?—Well, but I should like to emphasise his method of doing it.

7021 I have no doubt his method of doing it was excellent, and I quite agree with you in the results produced, but still what I wished to bring out was that from one means or another he had rather to deal with the selected, and not with the mediocre class of boys?—That is quite true; but I should like to say that the method of conducting the school, which was a school conducted without punishment at all of any sort, had the result of correcting a great deal of the trifling and idling. It was only the extreme case that was expelled from the school. I have never known more than two cases in three years, so that the effect of the tone of the school was to correct that tendency, and that, of course, is applicable to any school.

7022. But still you say yourself that scholars when they came were in considerable part picked boys from rural schools?—I do. I admit that; yes.

7023. Now we take the amount of physical opportunities that were given to those boys. First of all, you had holidays that extended over rather more than ten weeks in the year?—Yes, about that.

7024. That is considerably more than a State-aided school receives?—I am aware of that.

7025. You had never more than four hours' work on an average in the day?—That is school work.

7026. And you had practically the whole afternoon free for walks or open air?—Yes; subject to this that your work at home required four to five hours.

7027. Quite so; but still that did not give you a very long day of work?—No; eight or nine hours.

7028. Therefore you think that the great excellence of this school and the future success of its pupils may not unfairly be said to be due as much to the restriction of work, the large amount of liberty given, and the

abundance of open air, as to the fact that there was very little exercise of a systematic kind?—Undoubtedly, I think that is the point that I bring out.

7029. Very well, in the State-aided schools we have to deal with a class much lower in origin, much more difficult to deal with, having longer school hours and a longer school year, not having the opportunities of physical open-air exercise that you had in that school; for these do you not think that some systematised physical instruction must be insisted upon?—If it is associated with the increase of exercise or play in the open air, yes; but then the conditions you specify make that practically impossible.

7030. You say, and I think we would all agree with you—I was just coming to that point—that you would prefer games, if possible, rather than systematised physical exercise?—I would for children, certainly.

7031. Your duties as Medical Inspector must take you into schools. Do you think that the premises admit in the ordinary State-aided schools of games of the free and open sort that you had at the Old Machar Grammar School?—Some do, and the country schools all do, of course, because one can go beyond the playground.

7032. Yes, but in town schools?—In town schools to a less extent, but some schools are fairly well provided with good playgrounds.

7033. But is it the case that the schools in the more thickly populated parts of Aberdeen, or say Dundee, are provided with playgrounds where 1000 children could carry on a game?—No; there are not many schools, there are two or three in Aberdeen, the more modern ones.

7034. Probably the Grammar School, which is for the better class?—Yes, the Grammar School, but I quite agree that the space is too limited.

7035. And further, even if you had better space do you think that these poor little children, who have not been accustomed to games, who have huddled together in the gutters and back lanes, are likely to invent games for themselves or to carry them on without supervision or encouragement?—They do invariably invent games, and not only so, but it is so irrepressible that in Aberdeen—certainly in Leith—I know scarcely a fortnight passes where they are not prosecuted in some variety or another. The streets are their playgrounds, and they use them most profusely.

7036. And what else can we expect except that the streets should be their playgrounds if they have no opportunities within their schools for play?—I quite agree, but they even desert the playgrounds, when they are available, for the streets.

7037. You do not advocate that they should be allowed to carry on these games in the streets to the danger of the ordinary passers-by?—Oh, no, that increases the dangerous environment that I have mentioned.

7038. Do you not think it would be a very good thing for these poor children if playgrounds of a more extensive sort could be found in the neighbourhood of their schools?—Unquestionably.

7039. Where two or three schools might join together?—Unquestionably; I quite agree with that.

7040. And surely a tactful, not unduly interfering, supervision would be a great aid to them to start them at all events in their games?—I have indicated, yes that it should be done; I do not wish to exclude the teacher entirely, but it can be done with the teacher to be as far out of it as possible. I am quite of the opinion that the teacher is always a wet blanket where there are children.

7041. That, of course, you are aware is not found in the higher schools of England?—No, I should think it does not apply to the higher class to anything like the same extent.

7042. There the teachers do constantly take a lead in games?—Yes.

7043. And help them?—Yes.

7044. But another objection to games—do you not think if you trust the physical training of our children solely to games, that the weaklings will very likely go to the wall, that the stronger would take possession of the games, and that the others will draw aside altogether?—I think that will be provided for, although it might happen, but it might be provided for in the other provisions that I have made, namely, as to the physical inspection; I think that is the point certainly, and, indeed, I think that that is one of the abuses of games not only in State-aided schools but in secondary schools, where everybody is required to join in instead of a lad being allowed to join in or not as he chose. It would very often be a better thing that he should be allowed to join in if he chose.

Medical inspection.

7045. You think that for physical exercise a medical inspection is distinctly necessary?—I do think so.

7046. All the evidence that we have received corroborates that?—Yes.

7047. But if the medical inspection is necessary for carefully conducted physical exercises under presumably a trained teacher, is it not all the more necessary for games where the strong and the weak boy would be trained together under no supervision at all?—Yes, I think it is quite relevant in the games and in physical training too; I would make it all general.

7048. I have only one other question; the paragraph which is before the census of children, there are some remarks that I think perhaps might be misunderstood. You adduce the instance of the saints, and you further say that the great conscientious man is usually dyspeptic. As a general rule of character do you wish to set up the view that dyspepticism will lead to conscientious actions?—No; oh, no.

7049. Is it not, I mean, deducible from the words you used?—Oh, no; I do not think, sir, that would be legitimate inference.

7050. I have no doubt you did not intend it, but I wish only to bring out that. Surely a healthy body is a great factor in producing a good citizen intellectually and morally?—Well, yes, I think my whole evidence would bear on that point; but I am thinking here of the very conscientious man, who is usually dyspeptic; I do think that that is a proposition which can be established.

7051. But surely you mean by the very conscientious man, one who pays a morbid attention to small petty points, and is rigid in his own opinion, rather than the man who takes a broad and liberal view of any question that comes before him?—Yes, I do not mean that, but the very conscientious man is associated with a particular class of individual, as I understand.

7052. The word 'conscientious' denotes a man of a high moral type?—Yes.

7053. You, by adding the adverb 'very' to it, intend to make it the very opposite. You wish to say the man who is conscientious unnecessarily, and who raises scruples?—Yes; well, of course, I would not wish to push it too far, and I am quite willing to admit what you suggest to a certain extent. The point that is really at the bottom of it, to my mind, is this, that a conscientious man, and a very conscientious man——

7054. Are two different things?—Yes, to a certain extent the conscientious man often is particularly scrupulous and sensitive to points that do not touch the character of a non-conscientious man, and the result of the scrupulousness is a certain amount of worry and annoyance, and a tension of mind which does result in disturbing the nutrition of the whole body. I know, for example, prominent, able men, to whom doing a special important duty actually produces such extreme dyspepsia that they have to lie off for a day after it.

7055. Then do you not think that if such men as you have in your eye had had a good physical training, they probably would have been relieved from that weakness?—I am not prepared to say that they would be as conscientious.

7056. But they would be much more pleasant to deal with?—That is an entirely different proposition.

Physical exercises: nature; factors.

7057. *By Mr Alston.*—I do not know whether the other members of the Commission formed the impression, but my first impression from your evidence was that you laid too great strength upon nurture, environ-

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ments, healthy free games, supervision of general and individual health, and put these in the first place, and that you did not think so much of physical exercise as applied to school children within school age?—That is so; or, rather, to put it more exactly, the amount of school exercise that is possible within school compass as the counteractive to the bad conditions that are a constant quantity in every industrial community, I mean that you are undoing at home what you would wish to do at school.

7058. But you do not intend us to understand that you thought very little of physical training in the schools?—Oh, on the contrary, I think my whole evidence indicates that I deal with the *nature* of the physical training.

7059. For instance, you give the example of North Lodge Industrial School for Girls in Aberdeen as producing the very highest results from physical training?—Yes, but not for physical training alone. The point I emphasised there was that there was a radical alteration in the environments; the children are absolutely taken away from their homes. They were fed and cleaned and clothed, and then I say exercised. Wherever you produce these conditions you will certainly get good results from physical training.

7060. You include nurture and environment?—Yes, as elements—factors in the case.

7061. In getting the best results from physical training?—I do, sir.

hysical and ental evelopment: mounts.

7062. Then you would prefer, we understand, to limit the amount given within school age to the mental development of the child, and rather increase the time given to the physical?—Yes, the freedom, and especially the open-air exercise; but, as I said in answer to Professor Ogston, I do not have much ground for saying, except as a general impression, that the present Board School work is excessive; I mean it is not on that ground alone; it is on the ground of the housing that I base it mainly.

own and ountry hildren: ocial istractions.

7063. Then you say, 'apart from the general causes 'mentioned above, one cause operates powerfully in 'favour of the country school, namely, the concentra- 'tion of effort on few subjects, and the absence of 'social distractions.' What do you include in 'social 'distractions'?—Well, I include the epidemic of children's parties that start in the towns between October and April, and the amount of social intercourse there necessarily is in towns where people are drawn so much together as compared with the country, where the school is scattered to different farms in different localities. That is mainly what I meant. There is a vast amount more of social intercourse in the town, illimitably more than in the country.

7064. Everything that at that period takes the boy off thinking of the main thing of his life?—Off thinking of the main thing of his life.

ontinuation lasses: kind f physical raining.

7065. You pointed out the difficulties in attending continuation classes of the boy and girl, the young man and the young woman, who had begun to work hard at their respective employments?—Yes.

7066. And you think that anything in the way of physical training should therefore be purely recreative?—For the hard workers such as the foundry people, and engineers, and carpenters, and so on.

7067. Even message boys?—Even message boys; they have a fair amount of open-air exercise independently; they might be fitter indeed for drill than the hard workers would be.

ilitary drill.

7068. Then it would follow from that, that you would disapprove of military drill being practised in continuation classes?—One would not like to say disapprove entirely, because to a great many people the complete change in the kind of work is a distinct recreation, and there is no question as to the popularity of military drill in the past as showing that it has attractions that make up for any extra drill, and, of course, it involves going into the open air and the prospects of camp exercise and so on, which would all be in its favour.

7069. But in another part of your evidence you have called military drill rather a dull exercise?—I do think so. I am speaking from my personal feeling about it. I do think it is rather a dull exercise if persisted in.

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7070. Do you mean by that, complete military drill in a company with all its formations?—Well, I think when you get to that point it gets a distinct interest, I quite allow; but when I wrote that I was thinking of its application to children.

7071. The movements and turnings?—The movements and turnings; the specific things; most of these things are involved in all drill.

7072. But the complete military drill as applied to boys in a company properly formed, with its officers, and using the drill of the 'Drill Book,' you think that would be attractive?—It would be more attractive; yes, one feels that.

Generation degeneracy improved conditions life.

7073. One minute, to refer to what Professor Ogston noted about generational degeneracy; is it not the case that the insurance offices now find an improved expectation of life in the community?—That, I believe, is the case, though I cannot give you any figures; I think that is so.

7074. And that that is likely to be due to improved conditions of life?—I think so; I think it is.

7075. Would not these improved conditions stamp out the generational degeneracy?—I think they should.

7076. I think that was the argument you used in answer to Professor Ogston?—That was the argument I used in answer to Professor Ogston.

Physical training an m ral improvemer relation.

7077. Then, I see there are two points; you cannot see any moral improvement that results from physical training—the last paragraph above 'Physical Census of Children'?—Yes, I see, sir. Well, what I have said is, that the mere animal result is not of much importance, either for or against morality, that is what I have said; but the method of getting it is important; I think that that distinction is worth making.

7078. What do you mean by 'the method of getting 'it,' then?—Well, it would be a distinct difference in the development of a school, whether a teacher absolutely governed everything that his pupils did in detail in the measure of games, or exercise, or drill, or whether he had tact enough to keep himself in the background and encourage them to develop their spontaneous impulses. I think that would make a distinct difference in the method of getting the same result, or a result.

7079. But in the matter of drill by the same teacher, having control over the pupils, giving the word of command, and getting the ready obedience, he does not stand aside?—No, sir, I would not quite understand that as involved in this particular question,—Does improved physical development promote morality? Physical development may be got at in so many different ways, that you cannot say it is associated with the teacher disciplining a company. That is one element, no doubt, but it is not the whole case by any means, and I should think that belonging to a football club, for instance, or a cricket club at a school, is about the strongest incentive that any boy can have to do absolutely his best, and to get into the most perfect form, and the teacher need never come into it at any point at all; that is what I wish to bring out.

7080. We have had repeated evidence, however, that the teachers lay great stress upon the moral improvement which takes place from the physical training of classes?—Well, sir, I cannot speak of my own knowledge of that; my opinion is not of much value.

Military drill effect.

7081. Then you say in your evidence that the soldier who has been thoroughly drilled shows no superiority over the layman who has not been drilled?—That is putting it too strongly; I should say moral superiority; for his own purposes the soldier is excellent; he certainly in many respects, to my mind, could not be better, but then it is a very limited purpose. You want endurance and independence of disagreeable episodes, and so on, developed, and that is developed, but I am not prepared to say that you cannot get in any class of the community you choose quite as good character and persistence and readiness to face dis-

agreeable things in the non-soldier public as you will get in the soldier.

7082. Is there not something, however, inherent in military drill that produces results which other methods of training do not?—There may be, but I am not prepared to say that it is unmistakably good. My own feeling is that your ordinary military drill tends to develop strongly, too strongly in some cases, the obedience quality, and too little, the spontaneous co-operation of one man with another; and it is the necessity of life on a ship that makes sailors deal with a moving object that requires to be attended to by somebody spontaneously at every hour of the day to my mind makes the naval drill a superior drill to the soldiers'. It is an accident, I quite allow, but it is a necessity of a ship to be manipulated or manœuvred at every hour of the day while it is moving.

7083. But it is the quality of the soldier in relation to the other members of the public that I was thinking of?—Yes. I am not prepared to say, sir, that by other methods than by physical drill you cannot produce as high moral character in every way as you can by any conceivable soldiers' drill.

7084. Do you get the same smartness, alertness, deference, readiness, self-respect?—Yes.

7085. Out of another method than military training?—Or sometimes out of no method. I do not say that you do not produce these results within limits by military training. I do not wish to run it down from any point of view at all, because I think it is good within its limits, but I am not prepared to say it is the only way of producing manliness and good character and alertness to duty, and so on.

7086. So you think that military drill as applied to boys of school age, or in continuation classes after school age, is not a necessity for producing these qualities?—No; I do not think so.

7087. *By the Hon. Thomas Cochrane.*—There are one or two questions I should like to ask you in going through the evidence. I do not quite understand whether you are in favour of physical training or not, within certain regulations?—I am in favour of physical training, but I am not in favour of making it all a discipline and all a matter of drill and supervised exercises. I think that physical training is a necessary incident of good life in the open air, as country children, for example, although they may never have had any special attention directed to their physical training, become physically trained. They climb trees spontaneously, they run long distances, they ride horses, and all that sort of thing, and that is a necessary result of their life in the country. I think that that is better, on the whole, than the disciplined physical training, especially as you cannot always rely upon judicious qualities of teachers in doing it.

7088. You are in favour, then, of some form of physical exercises for children?—Oh, undoubtedly, sir. I think my evidence bears that out fully.

7089. But you would prefer the unrestrained physical exercise that children would get from climbing trees?—Well, spontaneous exercises.

7090. To any form of well-regulated physical exercise under medical supervision, suited to the individual strength of each child?—On the whole, yes. But I made a distinction that the true use of physical exercise, in the sense of physical drill, is a disciplinary use and for the formation of character, just the same as teaching a child geography or arithmetic; you can make the same disciplinary use of it. To that use of drill I have no objection whatever. I have so stated. But when you are founding upon drill the best results for the development of individual physique, then I think you will get better results if you allow as much as possible to the spontaneous exertions of the children themselves. That is my point.

7091. You think there should be spontaneous play, but at the same time you see certain advantages from physical exercise—regulated physical exercise?—For disciplinary purposes, oh, yes, I see no objection to that; it is part of discipline of development of character just as any other piece of education.

7092. And you recognise it is not open to all children to climb trees?—That is so.

7093. There is a very limited number of children, therefore, who can take that particular exercise?—Yes.

Other improvements necessary.

7094. But for the great majority of children some regulated physical exercise is desirable and necessary?—And necessary in some form; but I should like to keep in view what I have stated in my evidence that the problem for physical exercise in school is how to neutralise the bad effects of bad housing. I do not think that an hour's drill a day in school, especially if it is within school, will practically in any perceptible degree neutralise the effects of fourteen hours' breathing of bad air. That is my point.

7095. Your point, as far as I gather, is that with any addition to physical exercise there should be other sanitary surroundings?—That is so, sir; and I think also, I should like to say, that I see no physical reason, no administrative reason why even School Board children in towns should not have a great deal more in the open air on Saturdays and the like, and an occasional holiday in the country more than they have apart from the general impracticable proposition that all schools should be in the country, as I think a great deal more might be done than is actually done even within our present limits.

Walking.

7096. Referring to your evidence, you say you prefer walking as a form of physical exercise?—I should hardly say I prefer walking; I gave that as an historical example in my own experience of what was found sufficient. Personally I like walking, other people do not, but what I would say is that although I personally prefer it within limits, I do not give it as the only form of good exercise.

7097. You said that it conferred staying power, and so on?—Yes.

Games: compulsion undesirable.

7098. I would like to know whether you have ever consulted the children themselves as to what they considered preferable; whether they would prefer physical exercises, such as skipping and calisthenics, and throwing up balls, to taking a walk in the streets?—Oh, they will prefer the exercises of skipping and running about the streets, and so on, and as it happens, I came across an instance three or four weeks before I came here where boys distinctly resented being sent to play for an hour's cricket after three o'clock in the afternoon or the regulation part of this particular school. They said to their mother, 'Will you not 'allow us to come down home and play by ourselves 'rather than take the school game.' The statement was given to me by a mother who is particularly interested in this identical question of getting what would not only be good for her children but equally agreeable. They said they all resented doing the thing to order.

7099. Might it not be that the particular game of cricket was not suitable to that particular boy?—Well, he plays it very persistently, when he is allowed, with his own chums; probably it is not that he objects to cricket at all, it is because he objects to it at that particular time, being tired.

7100. That is only a particular instance; you can hardly found much upon one instance of a boy?—No, I should not, but I should be prepared to find it repeated pretty frequently; I should say you may frequently not wish to do a certain thing at the ordered hour.

7101. You mean frequently human nature rebels against doing what is good for it?—To a certain extent a boy may be tired; after four or five hours' work it is not the normal thing to go and play a game according to rule.

Nutrition.

7102. You speak very strongly as to the advantages of nutrition for the children, and you lay great stress upon it?—Yes.

7103. But would not reasonable exercise enable the children to digest their food better, and therefore nutrition would be improved?—In Board School children I have never heard that there is any difficulty so much in digestion as in the quality and the quantity of the food. I think it is the poor variety in the food

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of children that is rather to blame for their nutrition than the mere difficulty of digestion. In my hospital experiences I have never heard of any such thing as indigestion in children, except during acute illness; it happens, of course. I quite allow in special children's hospitals, and the like, no doubt you get plenty instances; but I think the ordinary normal School Board child can digest anything that it gets reasonably.

7104. You never found that fresh air and exercise give an increased appetite?—Oh, yes, that is a commonplace, of course.

7105. And therefore the food would be better digested in all probability?—Oh, no doubt it would. There is no disputing that proposition; but I was not thinking of it as a difficulty.

Drill and nervous strain.

7106. You think that drill of every kind, except, perhaps, musical drill, involves a severe nervous strain on young children; have you any instance of that?—I have already answered that question. I have no specific instance within my own experience, but the illustration I have given, and the nature of the drill itself, is to involve a certain nervous strain. It is as much an intellectual exercise as it is a physical exercise.

Rest: change of work.

7107. Do you not find in your own work that a change of work is the greatest rest you can have?—Yes. I have stated previously that I think that would be a good reason in favour of military drill, even with the manual occupations.

7108. Change of work is practically rest, and the best rest you can have?—Not always.

7109. Very often?—Well, you cannot apply that indefinitely, of course, to children; you exhaust them; you have to deal not with an adult brain and an ordered and systematised set of habits, but with a growing brain, where the habits are just being formed, so that you cannot quite reason from the one to the other.

7110. That would apply to over-exertion?—Yes.

7111. But if that is carefully guarded against, a change of work you think would be, on the whole, beneficial?—Oh, yes, I allow that.

7112. That seems to be the main point; it is a question whether these exercises are exaggerated or not, or whether they are carried out under proper supervision?—Yes.

7113. I see you give some illustrations which are most strikingly favourable to physical exercise?—Yes, that is so. You will notice I always asserted that the improvement in feeding and cleaning, and so on, for that class of children, of course that would be necessary, because they are taken from the slums—where you can secure these conditions you will get good results from physical training, I quite admit.

Physique and saintliness; moral capacity.

7114. I do not want to take you over the paragraph Sir Henry Craik alluded to—the paragraph of the saints being never conspicuous for good physique; but from what experience do you gather that opinion?—Well, I made it as a general proposition. I think the very conditions of saintliness are not always—I said 'have never been conspicuous for good physique'; I think that starvation and fasting, and the extreme exercises that men like Cardinal Newman, for example, subjected themselves to, are a distinct element in the type of saintly men, and one cannot say that that is fulfilling even physiological conditions of good physique.

7115. I do not think Cardinal Newman would like to be considered a saint?—I daresay not; I took him——

7116. But any of those historic personages who have a right to be considered saints, were they not men, very often, of considerable physique?—Oh, I quite agree with that; but I say that it is not a conspicuous feature. The mere matter of fasting for a day at a time is alone a sufficient index. I do not wish to push it too far—to an extreme.

7117. I do not think that it would be carried out if we went into it very deeply. I think that those who were saints must have had considerable physique; they suffered stripes, often imprisonment—those who were real saints?—I should not like to push it too far as a scientific proposition. What I wanted to illustrate was the relation between physique and moral capacity. A prize-fighter may have a splendid physique, but he does not necessarily have a fine moral character, except within his own particular round, for which he may be well qualified.

7118. There, again, it is a question between excessive athletics and the ordinary improvement of the physique which physical training might give?—Quite.

Drill: inappl for chi from s twelve

7119. You consider that drill is always a dull task?—No, sir; I consider that drill is to my mind—that is, I am thinking of the children, if you observe, from six to twelve. As I went through it myself at school I must say I did find it a little dull.

7120. Is that due partly to the system of drill?—I think it was probably in my own case, and it may have been due to the quality of the drill instructor. Of course they are not adapted to boys, they are adapted to men; sometimes you get a very happy illustration of a different type, but it is not a very common type.

7121. You do not want to lay it down that drill is necessarily uninteresting?—Oh, no; I do not lay that down.

7122. You can understand its being made necessarily interesting to children?—Yes; oh, yes.

7123. And it would benefit them from that point of view; they would be interested in it if properly carried out?—Yes, within limits, but the temptation is to carry these things to excess.

7124. Scouting, for instance?—That is open-air exercise.

7125. That is military drill?—Yes.

7126. Camping-out is military drill?—Yes. Still I am not contemplating that for children from six to twelve. That is what I was thinking of in this particular paragraph. I quite agree for the older ages that would be admirable, but I do not think it is applicable from six to twelve years of age.

7127. Certain forms of physical exercise that are included now in military drill are contained in most of the instruction books being used in schools, and are not in themselves uninteresting if carried out?—Oh, not necessarily; but, as I said, these are included in all forms of drill. I was thinking of what is specifically military. That is included, for example, in naval drill as well as in military.

Athle first-c studer

7128. I think you cannot name one student that at once was an athlete and a first-class student?—That is true, I cannot.

7129. Is that from a wide experience or from one particular school?—It is from an experience from the year 1880 till now of Aberdeen students, and that would involve roughly, I think, 300 students a year—say 200 students a year.

7130. Did you ever take any note of their after careers?—Not specially, although I know the after careers of a good many of them.

7131. And did you notice at all whether those who were reasonably fond of athletic exercises were less successful?—No, I cannot make any such statement from my own knowledge; that I do not know.

7132. A good many prominent men at present occur; but one, for instance, the Lord Chief-Justice of England, and Sir Robert Reid?—Oh, yes; I quite admit the brilliant exceptions. I would not wish to make it an absolute proposition at all. If you notice, I have stated that in my experience it is a less frequent thing.

7133. *By Sir Henry Craik.*—Was it not the case that an Aberdeen student not many years ago rowed in the Cambridge eight and was senior wrangler?—That was highly probable.

7134. And took the first place in the Indian Civil Service?—That is highly probable, but that would not disprove my general statement.

7135. But still that was among Aberdeen students?—Yes, it shows that a university without any system of physical training might yet produce an athlete.

7136. *By the Hon. Thomas Cochrane.*—Do you know

most of the prominent men have been more or less fond of physical exercise in after life?—I do not think that would be largely true in Scotland. I cannot speak for England, because my experience is too limited.

7137. Mr Gladstone, for instance?—Yes, but he would not be counted an ordinary person. The average person—I am thinking of the students of the university level, the ordinary good with the bad; as I said, he would count among the brilliant exceptions. I do not deny that the thing happens, of course.

7138. Only one further question. As an old soldier, I am interested that you consider 'the army ideal is 'a very abstract, and in itself a dangerous, ideal to 'make predominant in early life. It tends to develop 'an unwholesome elation in destruction'; could you give any reason for that rather strong statement?—Well, the only reason I could give is my own observation of children, and so on. They glory in imagining the shooting of imaginary enemies and destroying people. As I said, it is a normal thing in a boy's life to have these tendencies to destruction, and I think it is really accentuating the thing more than is necessary. As I have said, in the hands of tactful teachers I do not see that the thing might not be modified, but my feeling is that I would not look upon the army as the only ideal for a school, and the tendency is to make it that way about.

7139. Do you think that a soldier only takes pleasure in destroying people?—I do not think that is so, sir; I would not wish to—I do not think that is likely; but it is putting that class of ideas in the ascendant.

7140. It is really an abstract idea in your mind, not supported really by any specific cases?—I think it is hardly a proposition that admits of specific cases; it is more a measure of my own opinion than a scientific induction.

7141. Is it an opinion formed upon any wide study of that particular point?—Well, I can only say that it is based on my general experience taking one occupation with another.

7142. *By Sir Thomas Coats.*—Have you had an opportunity of examining children in Board Schools who have been under systematic physical training for a number of years and comparing them with the same number of children in another school where that has almost been absent?—No, sir; I have no such experience, no such opportunities; not in detail; that is except just in the vague general way that I have given.

7143. You have no means of comparing the two?—No.

7144. *By Mr Fergusson.*—There was one point upon which there was some little confusion. You are Medical Inspector of the Local Government Board?—Yes.

7145. At present you have no general inspection duties; you only go now and then in special cases to inspect?—That is so for the moment; but the development of my office will include——

7146. You once were a Medical Officer of Health?—Yes.

7147. The point is this, have medical officers of health any duties with regard to inspections of school buildings?—Oh, of school buildings, yes.

7148. When you were Medical Officer of Health you used to inspect, in the counties of Wigtown and Kirkcudbright, the school buildings?—Yes, along with the Sanitary Inspector.

7149. But you had nothing to do with the individual children?—I had nothing to do with the individual children.

7150. Do you think that could be made part of the official duty of medical officers of health—the inspection of school children?—I should fear, sir, it would entail much too great an extension of their work to make them responsible in counties certainly, and in towns the work is heavier. For other reasons I fear it would be hardly practicable.

7151. Regarding the students at Aberdeen, however good they were, you do not know how much better they might have been if they had had some physical training?—I am quite willing to put it that way.

Public Health Act 1897: school clause enforced.

7152. In the notes of your evidence you mention some medical inspection that had been adopted in Leith that had had good results; I did not quite catch what that was. At Leith you said some medical inspection had been conducted, and there had been no epidemic since?—I did not refer to medical inspection generally, I referred to the strict enforcement of the school clause of the 1897 Public Health Act.

7153. What is that?—That is that no child shall be admitted to school without a certificate by the medical practitioner, or by the Medical Officer of Health, and also that no teacher shall admit a child without such certificate.

7154. Was there any difficulty in enforcing that?—None whatever in Leith, except, as I said, in mild diseases like chicken-pox and one or two things like that, and whooping-cough, but with the others there was not.

7155. Was this certificate to be got free of cost?—From the Medical Officer of Health it could be got for nothing, but from the medical practitioner, of course, just in the ordinary way, and in at least one county in Scotland they have now made the arrangement that the medical practitioner shall be paid a fee for it.

Musical drill.

7156. Further on in your evidence you are speaking of musical drill, and you prefer music?—I do.

7157. We have been told by several witnesses who teach physical exercise, that you cannot teach children properly with music, that it is impossible for a teacher to play the piano and supervise a large class, and they say you must teach without music, and then when the children know the exercise music is all right?—I should not admit that for a single moment. It is quite possible to have a pianist—one pupil teacher or an assistant playing the piano, and the main teacher conducting the drill. I have known that done frequently.

7158. It is possible, but it means an increase of staff in many cases?—No, it means teaching a pupil teacher to play the piano—simple marches.

7159. If you have got such a thing, if there are pupil teachers. In an enormous number of schools there is no staff for that?—I quite admit, under these circumstances, it might be a difficulty.

Public baths: water.

7160. Then as to the bacilli in the water of the public baths, you did not tell us what harm they did being there?—Well, sir, I do not wish to go into it too fully, but the presence of bacillus coli—which is another name for one of the bacilli common in the intestines—means that human excreta got into the water more or less, with the result that any child bathing in such a pond necessarily swallows a certain amount of the water, or certainly takes it into the mouth and puts it out again. It is not a matter of great importance in my mind. I think one is apt to make too much of those bacilli in water; I do not think it goes for much, but I think it is an index that care should be taken to make the baths as nearly clean as possible, by first making the children wash before going into them.

7161. There were not many of that particular bacillus; the thousands were all other sorts?—Relatively there were not very many, but it is a pity there should be any at all. However, I would not wish to put too much importance on that aspect of the thing; it is more as indicating precautions to be taken. You cannot absolutely eliminate it from any bath; you must have a certain amount of that kind of bacillus.

Games and spaces.

7162. Of course you advocate very strongly games as a form of physical exercise, but there again you are met with a very great practical difficulty in finding space?—Yes.

7163. You said that this would not be so bad in the country, but is that your experience; do you not think that it is almost more difficult in the country—I am not talking of the Highlands, of course—to find any space for children to play?—Yes, to find specific grounds and fields, and so on; but then the public roads and everything of that kind are available in ways that are quite different from the town.

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7165. But can you really have any useful games in the public road?—Well, I should just test it by the result, you find that as a fact country children are, on the whole, better physically developed than town children, and the only difference, to my mind, is the housing; I think that it is not individually better, but that it is in the open air and they are more in the open air.

7166. There is more fresh air?—There is more fresh air, that is the main difference, and probably the feeding is slightly in favour of the country children.

Underfeeding.

7167. Then, under the heading of 'Dietary'—the last paragraph—you lay a good deal of stress upon that as an urgent measure?—I think it is, sir.

7168. At present, as you know, School Boards take no official notice of children being underfed?—So far as I am aware they do not.

7169. Do you think that they ought to?—I think so; that it would be quite an appropriate thing to do, because I have known, with the poorer classes of Leith, children that were obviously not having enough food having to go to school regularly with others that were well fed.

7170. You think if an inquiry were made by the School Board that might be remedied?—I think it might, it could be certainly.

7171. You do not suggest that the School Board should feed the children?—I hesitate, as I have said, to make any administrative suggestion about it, because it raises so many difficult questions; but I see nothing against its being called an appropriate thing for the School Board to do if they require this output on the part of children, and some School Boards have, I believe, gone the length of organising soup kitchens at a very low fee.

Manners.

7172. *By the Chairman.*—There is just one question I have to ask you upon that question you were asked before about the morals. You said, I think I am right in saying, that you did not think in respect to the word 'morals'; suppose you substitute the word 'manners,' which is less of animal, or human nature, than actual morals in the natural sense. If you substitute 'manners,' do you adhere to that remark that a certain amount of physical training has no effect upon children's manners?—No, I would at once admit that.

7173. Do you think there is any use in manners in children, as a Scotchman?—Oh, undoubtedly.

7174. It is not common in the North?—No, far from it.

7175. I only asked your opinion?—I quite agree with you.

7176. You think there is something to start with in manners, and, in the second place, children's manners might be improved by physical training?—Oh, yes, I admit that at once, because I consider manners a measure of discipline, and that is the use to make of drill; you can make a great deal of use of drill; I would not be supposed to be against it, and I am sorry my evidence should have given the Commission that impression.

7177. And you would even go so far as to say the children's success in future life would not be the less assured, if they had good manners?—Oh, unquestionably it is an 'asset.'

English Scottish children mortali

7178. *By Professor Ogston.*—I have been asked to put this point to you. An eminent medical witness told us that forty years ago the same number of children died in England as in Scotland; that nowadays, and for the last half of that period, three died in Scotland for two in England. Those are based on the Registrar-General's statistics?—Yes.

7179. Have you any knowledge of the fact?—No, I cannot say that I have any special knowledge of it, though of course one can get access to those statistics, but I have not specially studied it.

7180. You cannot give us the cause of it, whether it is as he suggested, it might in part be due to the greater development of outdoor sports amongst English children?—That is a possibility; I should not like to exclude it as the possible cause.

7181. But you have no special knowledge why three to two die where they used to die equally?—No, but I should think if you took a fair test—a comparison—and took Glasgow and Liverpool say, or Aberdeen and Leeds, and compared them in detail, I doubt if you will get that difference at all; I should say that it is a kind of statistics that it will be very difficult indeed without a very elaborate analysis to come to definite conclusions about; I could not give offhand any reason.

7182. Suppose the Commission required reliable Scottish statistics as to what percentage of children were weakly, and the percentage who were flat-footed, and the percentage who were crippled, or the percentage of who were incurable, have you material at your disposal for obtaining that for us if time and opportunity were given you?—If I had access to the schools of Leith or Edinburgh I could easily get material.

7183. Well, have you access to them, or could you obtain access to them?—I am not aware; I have no official entry to those schools. Of course it would be with the approval of the School Board and the teachers. Of course I have no official right to make those examinations.

The witness withdrew.

Mr F. Warner, M.D., F.R.C.P.

Mr Francis Warner, M.D., F.R.C.P., examined.

7184. *By Professor Ogston.*—It would be desirable to put on record your qualifications, so that your evidence might have full weight. I would therefore ask it to be taken down—a Doctor of Medicine of London University; a Fellow of the Royal College of Physicians, and a Fellow of the Royal College of Surgeons of London; Physician to, and Lecturer on Therapeutics at, the London Hospital, and Chairman of the Council of the Childhood Society, etc. I see that you have had experience of special instruction for feeble-minded children, and that you have advocated it, that is to say, at the Social Science Congress of 1884, that you were Lecturer at the Cambridge University for 1888–89, that you delivered the Milroy Lectures at the Royal College of Physicians in 1892; that you were the Hunterian Professor of the Royal College of Surgeons in 1887, and that you have published reports of 100,000 children examined in schools, and, I suppose, have had many years' experience of medical questions and medical life in all forms?—Yes, thirty years.

7185. And have specially directed your attention to this subject?—Yes.

7186. Perhaps the Chairman will approve of my pointing out that we have already had before us a good deal of evidence recording the ordinary well-known facts concerning children and so forth, and that when you read over your evidence you might probably help us most by emphasising especially the points on which your own observations are important, or anything original that you would like to put before us, or anything out of the routine line of things. Then would you kindly begin at the words, 'Order of 'Evidence,' and tell the Commission what you feel inclined to volunteer regarding the subject of our remit?—The first I have put down, sir, is 'census of 'children,' and that I understand to be what experience has been gained as to how a census can be taken; that is what I thought it to be.

Census children methods

7187. Yes, that is so?—If so I had better meet it by saying how our census or the report of 100,000 children whom I examined was carried out—sketching the method.

7188. Precisely?—Well, the first thing was to decide what to look at and what to look for, and we found that the points to look at classed themselves

conveniently into four groups what you would call physical signs. Class 'A' we call developmental signs; 'B,' another set of signs which we term nerve signs, conditions of movement, balance of the body, nerve muscular action; 'C,' conditions of health and nutrition, physical health and nutrition; and 'D,' mental dulness. Report as to school work we had to take from the teachers; we could not question the children; we were not allowed to. I would point out that in that work we found it absolutely necessary, for reasons that may become obvious afterwards, to insist on seeing every child in the school. If not I do not think our work would have produced half the value that it has now. Each school and each child present we did insist on seeing. It would have been worth a very great deal more from a statistical point of view if we had been furnished with a list of names, ages, and standards of all children seen. That certainly ought to be done in any future work. Then, as to these four groups of signs as they are printed; perhaps you would like to deal with them, they are described in detail in the **Report on the Scientific Study of the Mental and Physical Conditions of Childhood: based upon the Examination of 100,000 Children.* What I speak of as the developmental signs are given in this report at page 72; then you have definition on pages 72, 73, 74, 75, and 76—half-way down—of forty-two conditions of subnormal development which are noted and enumerated for the children; do you wish to go into them? Then the nerve signs are given in pages 76–7–8; it finished off at 79. That is, twenty of these nerve signs, points in action and balance in body below normal. Then you do not require any definition of health and nutrition. What we specially noted under this heading was the child thin, pale, or delicate. Lastly, there is report as to mental status, that was really in this work the teacher's report. That was the way we set about it. Each child was seen and these points looked to in each case; where there was any condition of defect the case was noted. It was noted on such a card as is given in *facsimile.*† I do not think you want probably the method of using the card, do you? That was the way in which they were recorded. Well, then, of course, if you are going to say anything about a census, a good deal in future work would be added on to it; we have got no anthropometry here.

7189. What do you think the important points in anthropometry?—I think it would be extremely important. Those that have worked with me know that there should be inquiry. I strongly recommend inquiry, and to such work as we have done here I should like to see added on a few anthropometrical points.

7190. Such as height, weight, colour, cranial index?—Colour is very interesting for the anthropologist, and height, weight—that is quite practicable, no difficulty at all. Then I do think that there is very great importance in having circumference of chest and circumference of head; any anthropometrical gentleman will suggest others. I am not sure whether you mention the head, but I can give you evidence presently with regard to the very great difficulties arising from the increase of small-headedness in our towns. I do not think that has been very extensively put foward. Just to take the measure round the head does not take a minute to do, and it is very important.

7191. Is it capable of being carried out properly only by very highly skilled medical observers?—These points do require that whoever is going to see them should be trained to the work, but I do not think there is any great difficulty in training young men. Many of my students have been able to do it after they have worked a while with me. I do not think there is any difficulty. I have known of teachers who have been able to do it.

7192. I think you have sufficiently indicated what the Commission wishes to know in that respect?—Yes.

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7193. Would you like to go on with the printed list of intended evidence?—The next point, I think, that you come to is that of the co-relations of the classes of points seen; that is where you get real information. Please do not think that because we have found an individual child, or a certain percentage of children, who have some defect in development, that we say the child is defective; 8 per cent. of school children have some defect. Looking among a dozen children, the chances are that you can find some points below normal, especially of head or nose or the ear, or eye openness, or mouth, large or small. It is in the correlation or association of class of defect that information is gained, one, two, three. The case that has some points below normal in development has, we can assure you, a great tendency to develop nerve signs. I thought that was your point.

Classes of points observed.

7194. And all this would have to be weighed and estimated by an expert?—Yes; all cases that are a little abnormal in their development tend to abnormal nerve signs more than other children. These correlations are given in *Report F, in Table 16, p. 103, on 50,000 seen in 1888–91, and in Table 24, p. 111, on 50,000 children seen in 1892–94. Then these correlations vary at ages. I should think that would come into your consideration. The tendency of a child of a certain make to mental dulness and nervous disturbance varies at different ages. See the *Journal of the Royal Statistical Society*, 1896, part 1, March, p. 14, Table I. That is for the children seen in 1892–94, and evidence also upon the same is given in a table in my published work called *Study of Children.*

7195. Would it be possible for you to give us the essence of those, your own conclusions regarding them?—Yes; when I use the term correlation I mean what you would perhaps call causation, the effect of one condition in the child on another; or you may put it in another way, and say the tendency of a child with certain conditions born to acquire other and added evils. Take whatever of these main groups 'A,' 'B,' 'C,' and 'D,' the largest proportion, except for nutrition, is among boys. That is a very important fact.

7196. I think if you could tell us what you yourself did it would be of assistance to us in carrying out our remit?—First of all, you must deal separately with boys and girls, as if they were two kinds of children. Then there is another way of practical value in classifying the children, that is into some sort of age groups, male and female. Well, the first thing I have to say is as to the difference between the sexes, there is a very much larger proportion of males than of females who are born congenitally subnormal; and this is important as a State matter; there is no question that it is the great cause of infant mortality, which, as you know, falls in the first five years upon the males, not upon the females, and so great is it that, there being more male births than female births, in adult life it is reversed. There are, of course, far more women than men, and it affects the tables for annuities.

Boys and girls normal and subnormal: proportion of defects.

7197. And it has its influence also in the school years?—I am speaking mainly of school life. Certainly, so that in all probability there is a direct relation between infant mortality and all those things which can improve the body, which, I take it, is part of your referendum. Then there is another great point, which I am sure must also concern what you have to do. If you take, for instance, all the children who are pale, thin, delicate, you find something like three times as many girls as boys in school population. I will give you the exact figures, if you like, afterwards. You find something like three times as many girls who are pale, thin, delicate. Then, on the other hand, if you take only normally-made boys and girls, those without any of these defects in development, therefore, cases which you can get to know of easily by a little management in school, the proportion of delicate boys and girls becomes equal. I will put it this way: suppose you have 2000

* This Report is referred to in the evidence as Report F, from which extracts have been made and printed in Vol. I. Appendix III. (No. 6).

† *See* Vol. I. Appendix III. (No. 4).

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children in school, and you want to make some regulations, and you first of all inspect them, that is what you are speaking of, census work, look at all the boys and girls, and you bring out from among the thousand all those who have some of these points of defect in development not quite the normal; slight defects do not matter unless other evils are added on; you will find you have drawn out a larger number from the 1000 boys than from the 1000 girls, and you will find afterwards you have about an equal number of boys and girls who are delicate among children of normal development, there is no more tendency among really normal children to be pale, thin, delicate, among girls than among boys, and that is a very important matter in all school management, and gives light upon much disputation between our profession and school teachers.

Ages.

7198. Could you sum it up for us in such a way as would be most useful to us?—The age groups I have divided them into are seven years and under, between eight and ten, and eleven and over, that is putting together the groups which are to be found in the Registrar-General's tables.

7199. And up to what age?—Whatever age we have them.

7200. Fourteen?—Yes, thirteen or fourteen; I think it was mainly thirteen then—it was some years ago. Well, then, you see that it is the cases that can be seen and known in a school, that we call the developmental cases that have the tendency to become of low nutrition, and if you somehow or other know the developmentally defective cases,—take the case of a school of a couple of thousand, I suggest cards—among your boys and girls, I do not think you have any question of delicacy really left that need concern you. You have got them amongst those that have been picked out as development defect cases, and therefore likely to become delicate.

7201. So that this class you would have to segregate for special management?—Yes, it leaves the teachers free to carry out what they think proper, and make their rules with regard to at least 90 per cent., while there will be about 10 per cent. who can be easily picked out as likely to prove delicate children.

Weaklings: percentages.

7202. Now, would it be possible for you to let us know among children, say between seven and twelve, what percentage numbers there are of those who are ill developed, weak, and so forth?—I have not got them under twelve.

7203. Take them for your own groups?—The upper ages you wish.

7204. We want the younger ones?—As to the younger ones, taking cases that have some defect of development, we find in the infant school, practically that is seven years and under, 31 per cent. of the boys and 28 per cent. of the girls also show abnormal nerve signs. The teaching of that is that surely even in the infant school they ought to have physical training, especially the boys, even these cases that we have drawn out.

7205. And above the infants, above the age of infancy?—Eight to ten; of these developmental cases, 43 per cent.—it has risen—of the boys, and 41 per cent. of the girls show nerve signs; it is getting worse. Eleven years and over, 40 per cent. of the boys and 44 per cent. of the girls; the girls go on getting worse. That illustrates very well a principle that I think is of importance. It has been fully proved by much evidence that there are fewer girls than boys made below the normal, what we have termed developmental defects, but in the case of a girl she is much more likely to get abnormal nerve conditions added on, low nutrition added on, and mental dulness added on than the boys.

Subnormal females.

That is a thing of immense public importance. It goes all through a large number of public statistics; it goes through the criminal statistics, the health statistics, the statistics from the Sick Asylum Board, the insanity statistics; fewer females are subnormal, but the female that has any subnormality is almost sure to get every other evil added on to it that can be. Socially, the woman that once commences to drink is not readily reformed, and gets into the asylum, never gets better, nor does she die, nor does she get cured, but lives on. From those dreadful statistics it appears that many more men die of insanity than women. It gets chronic with the women. A man gets cured or dies within about three years.

7206. Are those all the points that you think our Commission might usefully take up regarding the theory of the matter, and are you prepared now to go on to advise us with regard to the physical training applied to education?—Rickets will greatly interfere in towns, I am afraid, with the work that probably you want done.

7207. But your collection of observations do not bear upon rickets?—Yes, they do. **Rickets**

7208. Do then give us an idea of the percentage of them, if you please?—Well, as far as I can, with pleasure. Rickets: cases of rickets. When one knew in going round a school that there was rickets we put it down, but I am perfectly certain that we did not get in this record anything like the total number of rickets. We have only got down there 244; there must have been, I am perfectly certain, many more. These facts are not trustworthy with regard to the prevalence of rickets.

7209. 244 out of 100,000?—It must be vastly greater than that. We were not allowed to touch those children; we could only look at them. When we saw an obviously rickety child we put it down as rickety.

7210. The proportion would have been very much greater than that had you examined mild anminorty forms of it?—Certainly.

7211. And yet such minor forms would have been influenced for better or worse by physical training?—My point is rather this; unless along with the introduction of physical training, if that be your recommendation, means are taken to try and lessen the frequency of rickets in towns, I think there will be at once one cause at work acting against the beneficence of your physical training. You cannot carry on these things alone. I should like to speak presently about the feebleness which will come in the towns from small-headedness.

Small-headedness.

7212. Would you take up the point of small-headedness just now. It would come in very well here; it is quite a new point to us?—Definition: No child's head in school was called small unless it was under a circumference of nineteen inches.

7213. At the age of?—At any age; that is a perfectly rough test, you know; if it was at any age above nineteen inches we never called it small, even in a girl at fourteen.

7214. Would you prefer to evolve your ideas regarding small-headedness in your own words?—Cranium small. The point of size of head is recorded as apart from the size of the child from its age. That I insist on. A child that is short and may be stunted ought to have as big a head as his neighbour who is taller.

7215. Independent of age?—Yes; the volume should be estimated rather in relation to the age of the child than to his height. This may be determined by inspection, by the open hand placed upon the head, and by the measuring tape.

7216. Pardon me one moment—I suppose that all this matter of small-headedness is specially important in regard to the brains which are contained within?—It is. It is important with regard to the tendency of that body; the whole child, the whole body to fall into a condition of brain disorderliness, and of low nutrition, or becoming pale, thin and delicate, and I bring it forward and rather strongly insist upon it, because it is among the small-headed children and the rickety children that we have dealt with that there will be by-and-bye the complaints of the harm done by physical training. The physical training may be given for the 90 per cent. who are perfectly normal; it is among the 10 per cent., or whatever the figure be, who are not up to

the normal, that there will in the future be the harm; of course some harm will come.

7217. Might I ask your views with regard to this small-headedness; is it due to imperfect nutrition before birth or after birth, or is it a faulty development of bone?—First of all it is utterly against the ordinary law of development. I have given, I think, sufficient evidence that most of the conditions of defective development fall upon the male; conditions of small head fall almost entirely upon the female. That is number (1) it is not the operation of a natural law; (2) if you come to the question of the nationalities, the children differ immensely among the nationalities, and also the areas or districts. I have noted them down.

7218. You mean the areas or districts of the country, *e.g.*, Wales, England, Northumberland?—Well, I cannot speak of Wales; I can give you statistics which have been obtained of conditions of childhood in different areas of London. They are quite different in the Thames Valley from St Martins and up through the city to what they are in such parts as Islington. It has nothing to do with wealth. The wealthiest parish in London is about the worst, that is Kensington, and Chelsea, in which I live, and Islington, in which I was born, is one of the best and one of the poorest too.

7219. Can you trace any operative cause?—I think it is the buildings. I have not any doubt that it is a light and air question, and it affects the girls much more than the boys.

7220. And how would the buildings act?—Questions of light and air, I suspect; I have discussed this with many: it has been discussed by some societies. I discussed it with Sir George Buchanan, late medical officer of the Privy Council; he suggested that we might map it out according to areas, level curves, and also according to water supply, but the whole evidence seems to point really to where you have less open neighbourhoods, and where you have those storied buildings in flats, that there you have the smallest-headed children. Now Islington and Bethnal Green are poor; at the time I was there mostly small house property. The children were ever so much better than in other districts where they had built high six stories, model dwellings. If you are going to let the housing question make great big buildings such as we have got, I am sure you will have a very bad set of children upon whom to try your physical training.

7221. Those observations refer to the metropolis, I suppose, alone. You have not carried them out in the country?—As to London, you have seen the table, showing conditions in the areas of London; I expect you will think it too long to read. There were great differences in the conditions of development in the different areas.

7222. Could you give us the gist of this?—I would point out that in Kensington, Chelsea and Pimlico, which, next to the City, is the most highly-rated district, there are 15 per cent. of the boys and 9·6 per cent. of the girls in some point below average development. That percentage of children are liable to fall into conditions of ill-health in consequence, and conditions of brain disorder in consequence. They want your physical drill to guide them very much, whereas in contrast Islington has only 8·2 per cent. of boys and 6·6 per cent. of girls with any condition of developmental defect.

7223. And the inference to be drawn from that?—The inference to be drawn from that is, I think, that there is some cause at work quite independent of poverty, which is causing degeneration in portions of towns, and the suspicion is very strong that it is questions of buildings, light and air,—questions of buildings, and I should like to urge strongly that it is a great point in favour of what we began speaking of—the need of making a census of childhood. It will be a big work. In a paper I gave in the transactions of the Sanitary Institute, it is shown from Bermondsey, the percentage of boys with small heads is ·1, girls 2·8, contrary to all the other laws of defect in development—something artificial; for the Strand, boys 1·4, girls 7 per cent.; good schools, no poverty. In the City of London Schools, boys 1·2 per cent., girls 6·1 per cent.; Bethnal Green, 1·1 per cent. of boys and ·4 of girls. It is very striking.

7224. And the mental condition corresponds with the physical?—My statement is this, that 7 per cent. of girls for the Strand district are small-headed; it will be very difficult to deal with them, but you can note them, and you need not stop the work of the general school for anything you recommend, because you have got that number of girls who are delicate. We could find out those delicate girls for you in a few minutes and deal with them separately. That is the suggestion, one reason being that very likely you will do something towards preventing the continuation of small-headedness in another generation.

7225. Now may we quit the subject of small-headedness, or is there any other point in it that you would like to bring before us? Might we go on to your advice about physical training?—I suppose that we may in a large sense call anything physical training that is not mental, but you mean mostly drill, I presume. There are two objects at least of physical training as you would use it, the one to develop the muscles and body, and the other to produce brain power and mental faculty; do you accept that? Physical training: objects.

7226. Do you consider that they stand antithetically to one another?—No; I said those are two objects that you have in mind.

7227. Quite so, yes?—If you recognise that, then I would say with regard to gymnastics and athletics I am not an expert. I highly approve of them, but I have nothing there to tell you. It is with regard to the second that I have developed my work, for the purpose of producing brain power and mental faculty. I thought you would have a body of evidence about athletics.

7228. Are there any points about the first before we dismiss it—about athletics?—There are none that occur to me just now, but we can recur to that. Then with regard to physical training, having for its object and purpose to increase brain power and mental faculty, I think this is a most important thing, which has been far too much neglected. I suppose that wants some proof. I think the best proof that can be given is to compare the condition of children in the school where they have had at any rate some physical training with another where they have had none. I take for that purpose, if a Scotch Commissioner will excuse me, a Scotch school, the only one, I think, that I visited at that time in which there was absolutely no physical training, and I will compare it with a body of facts from the London School Board. This is the statement that I would make, that the good effects of physical training in schools are to diminish the number of cases with signs of brain disorderliness, nerve cases, irregularities in movement, and also to diminish the number of dull children. The evidence I take for the purpose is that we can contrast groups of children as seen in Board Schools where there was good physical training with a Board School where there was none. Mental development. Good effects.

7229. Could you give us information regarding that?—Here is the table. Now, for instance, I think that we get the best information by contrasting the London Board schools with the Scotch school that I spoke of; it was London Road Board School, Edinburgh, upper class. School in London and Edinburgh contrasted.

7230. Could you give us the essence of that, and let us look up the tables afterwards?—Nerve cases; that will concern you most. Nerve cases in the London Board schools, boys, 9·7; girls, 8·2. Edinburgh boys, 13·67; girls, 10·30.

7231. *By Sir Henry Craik.*—What are these percentages?—Percentages of the children seen.

7232. Defective children?—No, sir; children who had some irregularity in their movement and action which they ought not to have had.

7233. *By Professor Oyston.*—Really they were defective children?—Oh, no; I have not come yet at all to the question of defective children.

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7234. *By Sir Henry Craik.*—Who took those statistics?—I did.

7235. *By Mr Aleton.*—In both schools?—In both schools, yes. Percentage of nerve cases taken upon the number seen; nerve cases with some irregularity in action and movement, just the points that you want to remove by your physical training.

7236. *By Mr Shaw Stewart.*—Have you anything bearing on the physical training given in either of these schools on that point?—There was no physical training in those days in the Edinburgh school.

7237. Exactly; in neither of these schools?—In London there has been, in the London Board Schools.

7238. *By Sir Henry Craik.*—When was it taken?—It must have been about 1892.

7239. And were you informed that there was no training at all in the London Street School?—When it was very cold they let them have a little run up and down in the room to warm their hands. They were a very good set of children. I do not think you want the rest of the facts; they are all to be had if you want them.

Physical training and mental dulness: effects.

7240. *By Professor Ogston.*—Then might we now go on a little; you have told us about this brain power and mental faculty; can you add anything?—I wanted to give some evidence that if you give them good physical training in movements and balance of body, you could do a great deal to remove causes of mental dulness. If we had gone on with the figures concerning the Edinburgh school we should have found that they had got more than their average of dulness according to the reports of the teachers. Improve your physical training, you get better mental results. That is what the statistics say.

7241. And can you give us any further evidence to that effect?—I will just give you the London percentage of children seen, who were said by the teachers to be dull—boys, 7·9; girls, 7·1; in this Edinburgh school, boys, 9·08; and girls, 6·2. It is the boys that suffer the most from the want of drill.

7242. But you infer from that that the physical training in the London Board Schools produces the lesser percentage of nerve cases?—Of nerve cases and, therefore, the lesser percentage of dull cases, or, if we put it in other words, the effect of good physical training in schools is to diminish the numbers who have bad action and movement and balance, and also lessen the proportion of dull children.

Nerve signs.

7243. Now, then, at the top of the right-hand column of your notes of evidence, training movements, removal of abnormal nerve signs, general character and brain action, measurement, eye movements and power of accommodation, imitation exercises, transfer movements, speech: to what do these refer?—The actual detailed nerve signs, that I have given *en bloc*; you have not taken any evidence of detailed nerve signs, you took them *en bloc*. They consist mainly in action and eye movements, a thing of immense importance, and in eye and hand movement and balance.

7244. Might we, therefore, go on to the heading, 'physical impressions in brain classified according to their origin, sight, hearing, muscular sense in tension, muscular sense in movement'?—I think instead of following that, which is going into psychology, we had better take the question of sight. I should like to mention the immense importance—teachers have found it so—of training movements of the eye. No form of physical training will be satisfactory, or make the children really brighter unless that is done.

Eyesight.

7245. What do you counsel in that way?—That in training, one of the objects must be to get eye movements, movements of the eyes by their external muscles.

Training of the eye.

7246. But you are not prepared to definitely state what movements you would advocate?—In all cases see that the children do not get in the way of looking by simply turning the head. Many children grow up that way, and you will find this in many students. I have seen many of them in Aberdeen who did not move their eyes a bit, just as much as with my own students, and they make such bad observers. A gentleman, a Member of Parliament and a banker, told me he would not take any clerk in who could not move his eyes.

7247. Is there any practical way in which those movements could be applied in School Board physical training?—I train them in every case that I have to do with, and direct the training. The teacher must see that the child's eyes do move in following a moving object. It is a simple matter. Their attention should be drawn to the matter. If he had not learned to move his eyes, I should know that he had not been properly trained.

7248. Do any of the systems at present in vogue include the eye training?—It is gradually becoming known in London. I have lectured for the London University Extension upon this matter this year, and it is gradually spreading.

7249. It is being incorporated into those systems?—Yes, I have put them forward in all my papers and books, and it is being used here and in America. It is recognised as to not only eye movement but physical training. There is no doubt about the advantage of education in power of accommodation of the eyes; that is to say, looking at a distance, whether it is in town, down a street, or looking at stars. They want the relaxation and accommodation, but teachers ought to train it; it ought to be done. Certainly if these things are not attended to you get mentally bad results.

7250. I may say we have had a good deal regarding that?—Eye movements.

7251. No; accommodation movements?—Yes, I thought you would get that, but the eye movements should be added on, they are just as important as the accommodation movements.

7252. What are we next to take up?—Hearing. I do not know that we can say very much about that. There is an enormous number of children who have difficulty with hearing through neglect of nose and throat obstruction, as you know.

Hearing.

7253. We have had a good deal about that, perforated ears and so forth?—And mouth breathers. The next point I have got down concerns physical training, that is two forms of muscular sense which are greatly neglected by teachers, it is about the only access to the brain in some children, muscular sense in tension and muscular sense in movement. By muscular sense in tension we mean appreciation of weights, which is of the utmost use in training children who are without speech, or who do not understand speech, because they can then learn to make a comparison. Whenever I undertake to superintend the training of a child, I always institute exercises in appreciation of weights and comparison of weights. Then we want also physical training, cultivation of muscular sense in movement.

Muscular senses in tension and movement.

7254. Is that equivalent to practising movements, or would you distinguish between the two?—You can cultivate the faculty of muscular sense in tension, mainly by weights on fingers and hands. Muscular sense as regards movement is the feeling or impressions made in the brain by causing the child to make movements.

7255. So it comes under the ordinary forms of drill?—I am afraid in the ordinary form of drill they do not understand it, and they mainly prevent it with regard to small parts of the body. The muscular sense of movement is much more educative with regard to the movements of the small parts of the body than large parts. Movements of the digits, and of separate digits, has a much greater effect educatively in the effect upon the brain than movements of the limbs with the closed fists; you get very much less brain impression to improve the mental action when exercises are done with the closed fists, and more than that, your delicate children—I have said there will be some delicate children—most want training such as I am speaking of now. A child who gets too tired and exhausted by the force of movements with closed fists can make movements of the small parts and get the greatest possible benefit from that without the fatigue.

7256. Would you suggest that that is distinctive in the systems of physical training that at present obtain?—I do most strongly suggest it; I have seen it over and over again, and spoken of it over and over again, and I am sure that a great deal of the educative effect of physical training is lost by the use of apparatus instead of free digits—free hands.

7257. And you would advocate both in any ideal system that was being introduced?—Both; but not to neglect the free exercises, performing movements of the small parts, digits, fingers and thumbs, similar to those performed by the teacher, I regard as of the utmost importance.

7258. Well, I think we are fully impressed with that. Could we now take up the next paragraph? 'School class training, military drill, free exercises, 'children feeble-minded or physically defective,' and so on?—So important do I think the training in movement in order to improve brain and mental faculty that I think it should be used in training—I am quite sure they must be, they ought to be carried out in the school—a portion of it. It is not only the athletics outside, but a portion of it in the school, in the classroom by the class teacher. I think to get the maximum benefit out of the physical training, every class teacher should take his or her class in some imitation of his or her movements for a few minutes at a time. It cannot be done for long. That is what I mean, then, by class training.

7259. And military drill?—I have seen schools, of course, with military drill, and it is very pretty to look on at; it makes the boys quick and sharp; they hold their heads up as long as the master is looking at them, but my experience is, directly you get them into the ordinary movements, they go to pieces as badly as anyone.

7260. And what do you think of free exercises?—I should think that they should be combined with other drill. By all means have military drill where you think it well; where the children are strong enough, by all means, but then they want free exercises as well.

7261. In the younger years?—In the younger years, and afterwards, too. I will quote two cases. Feltham Industrial School, admirable in its military drill, but those boys when they made any movements otherwise were inexact. I would rather not mention the other school, because it is a known public school for gentlemen's sons, where they also go through training for military drill, and the military drill is done under a sergeant, what may be called the manner, the manner of approaching one, the manner of moving, the manner of even shaking hands among these boys, is extremely bad. The only physical training they get in movement is in military training, and they want free exercises as well; both should run concurrently, I think.

7262. And now this next heading of children, feeble-minded or physically defective? That is a new heading with which you have not dealt yet?—No, I have not touched upon it yet. Well, that is the old story; it goes back to about 1884 as regards my public work. The thing has been so thrashed out I thought, perhaps, you would rather have references.

7263. If you please?—I do not know what statistics you really think you would like. First of all the proportion of them among the 86,000 children in public elementary schools.

7264. Yes?—Then, if you will allow me, I will give you the references to it. The report of departmental committee blue-book of the Education Department on feeble-minded children—Mr Sharpe was the Chairman—see page 29. The committee thrashed it all out, and they put it in the form of a table, and I thought that would give you all with regard to public elementary schools. Then with regard to the whole 100,000 that I have seen, they are given fully in the Report F.

7265. And the conclusion—outcome of it is?—The outcome of it is that there is something like 1 per cent. of the child population mentally or physically defective; that is the number the Poor Law Committee came to.

7266. *By the Chairman.*—1 per cent. of feeble-minded?—I think it is too high, myself; it is nearer 8 per 1000, but, of course, I acquiesce; it is a question whether it is 8 per 1000 or 10 per 1000; I am sure it is not higher.

7267. *By Professor Ogston.*—Feeble-minded or physically defective?—Yes; they are fully brought out in the report. Of course, the diagnosis; I do not know whether that concerns you, is a very big question. At any rate if you have anything to do with the feeble-minded you certainly want somebody to make careful selection and report upon each case. That must be done under the Act for the defectives now. Every case before it can receive the grant for the education must be tested in that form by the Education Board, and by a doctor of whom they approve. The Act is an Act for the defective children. It is called 'Elementary Education (Defective and Epileptic 'Children) Act, 1899 [62 and 63 Vict., ch. 32],' and that gives a grant for the education of these children. I do not think it applies to Scotland; I think it is an English Act only.

Inheritance.

7268. I suppose we might pass over the inheritance from feeble-minded parents and take the next one, 'Inheritance in families of high-minded ability'?—Well, I find a considerable number of these cases are the offspring of exceptionally good parents. It is very common among those cases to find that the father is the best of his family and the mother the best of hers, and they have been attracted to one another in their mental lives, and their first child is an imbecile, or defective in some degree of defect—a considerable degree of defect—quite common.

7269. Have you any explanation?—Now we are going into biology. The defect tends certainly to fall mostly on the first and last. I think Dr Matthews Duncan showed that.

7270. A question of comparative sterility?—That was so. The first and the last are apt to be defective, and especially if the first is a male. Then with regard to the cousinship, of course that is known.

7271. You might perhaps state that shortly?—But this is not known that it is quite common where the man is above the average of his family and the mother above the average of her family that there is danger.

7272. Certainly that is not generally known. Have you any explanation or index?—Well, I can give analogies in biology. First of all, where there is evolution going on you always have a certain proportion of defectives. If out of the Jones family one is evolved that is the best of all the Jones family, and he marries into the Brown family, the best of all the Browns, there is considerable danger. It is analogous to what takes place in nationalities. Now the Jews have been a highly-evolved people; they have got the highest percentage of defective children.

Trained teachers.

7273. Trained teachers needed?—Well, that follows, I think, from the difficulty we have had in explaining the physical training necessary. I should like to say that trained teachers are absolutely wanted, and for the working of the Act it is a necessity, and they must mainly work by physical training. If you are going to work that Act in Scotland, the Act for mentally defective children—and you need it—although I know they say they have not got them, one of the first needs will be teachers capable of doing good scientific physical training.

Children of nationalities: proportion of defects.

7274. We have had a deal about that. I think we might, if you do not mind, pass from that, and take up the last group, the problems concerning childhood?—Might I now, or at the end, take the children of nationalities. It is so important and so little known; it will not take two minutes. You are for Scotland, but questions may be raised with regard to England. I cannot tell you much about the Scotch children, but I would like to say there is an enormous difference between the English, the Irish, and the Jews.

7275. Figures?—Report F, table 26. It is too important with regard to Ireland not to take the opportunity of putting it forward. Tables 26 and 28, p. 113, and table 28 put it in the form of percentages.

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7276. And the essence of it?—The essential character of it is that the Irish children show such a very large percentage with conditions of congenital defect of development. It is an immense question. That is so largely threshed out in the Parliamentary report of the Home Office on certified industrial schools. It was gone into very critically there, because it accounts for mortality in the Roman Catholic schools, which is high in this country. The proportion of developmental cases among the English was, boys, 8·4, girls, 6·8; Scotch, 8·0 (that is better), and for girls, 4·6; for Irish, 11·6 for boys, 8·4 for girls; Jew, 9·2, boys; 6·3, girls.

7277. That really reverses the conclusion that you drew from the Edinburgh schools and the London Board School?—Oh, you have got capital children in that school. Except for the fact that they move and balance badly, they were capital children. You had a smaller proportion of defect in development. You had a smaller proportion who were thin and delicate, but you had not trained them in those days. That is in years gone by, now about ten years ago.

Childhood: boys and girls: former require more physical training.

7278. Now might we take up the problems concerning childhood?—Well, I have said already, I think, that the main classes of defect include a larger proportion of boys than girls. You have a larger number of boys with defect in development, a larger number of boys with nerve signs, and the consequence is that the boys want more physical training to remove those bad movements and balance.

7279. And the second conclusion we have also already been dealing with?—Yes. These developmental cases, which were produced largely by sanitary and light and air questions, greatly tend, more than others, to get bad conditions of movement, to be delicate, and to be dull.

Defective children: special training necessary.

7280. So that embraces C also?—Well, C is delicate children. Now there are classes of special instruction for defective children in London. I do not know that you have them in Scotland. We have special schools that are full of delicate children; we have schools, as you know doubtless, for cripple children. For instance, at Fulham every child is a delicate child, and what I have had occasion there to urge, and know to be the point, is the enormous importance, if you collect delicate children, to see that they get physical training. They cannot do the same physical training as the strong boys, the big boys, but they want physical training.

7281. Most important?—Training in movement.

Movements desired.

7282. Tell us shortly what movement you would advise for this. We had no evidence at all of that before us?—That I can give you in plenty. First of all, exercises of the hands. The child should first of all learn to balance the hand in the normal, and for that purpose must see what the teacher does. The normal hand balance is with the two arms straight at the elbow, all parts of the hand in the same plane, no thumb down, not bent, all parts in the same plane. If you can, after three months' work, day by day, get the child to balance straight, you have done a great deal to put his brain in a better condition of order. I have tried it with children that I manage.

7283. That would be a little tiresome to go on with. Do you extend it further?—Oh, yes. That is simply the thing first of all. Then the child should learn by gradual practice to be able to imitate with exactness each movement that the teacher makes.

7284. Then?—Well, suppose we pass away from the hand. Then a second point I put is training in eye movements. We have spoken of that. Then I would say training to remove abnormal nerve signs about the face. They are all epitomised in the nomenclature.* For instance, frontal muscles overacting, what you call frowning, that can all be removed by training, to an immense improvement of the child's brain and faculty. There are a number of physical exercises. They have all been described in books that I have published.

7285. What books are these?—One is called *The Study of Children*, and the other is called *The Nervous System of the Child*.

7286. Some of your own writings?—Yes.

* *See* Vol. I. Appendix III. (No. 6B).

7287. Now we might pass on to paragraph (*d*)?—The effects of good physical training in school are to diminish the number of cases with signs of brain disorderliness and the average number of dull children. Well, I think you have been through that. We need only go fully into the statistics of a school in which there was no physical training and compare them with the result of schools in London where there is physical training. They are given in the tables to which you have reference.

7288. The result we have?—Children in different schools differ immensely. I refer you to Report F, table 19, p. 106. I think you had better take the next table—table 20, p. 107.

7289. And what does that show?—You will see the column headed 'Group II.,' that is to say, children who had some of these signs, and who, therefore, were to a certain extent below normal. It shows that the Poor Law children had a slightly higher percentage of cases that had to be noted than the day school. Of day boys we had to note 19·2 per cent. of boys, and 15 per cent. of girls, and in the Poor Law schools we had to note 21·8 per cent. of boys and 17·3 per cent. of girls.

7290. And you attribute the lesser percentage in the day schools to the physical training bestowed?—I only say it is the difference in the class of children admitted. The schools do not make the child; but I do say where they have, in Poor Law schools, an average of child material less favourable in make—lower class—the necessity of physical training becomes increased.

7291. *By Mr Fergusson.*—As to a system, are you acquainted with the various systems of physical training?—Not greatly; I am no authority upon that.

7292. I rather gather that the Swedish system is the sort of system that you advocate?—Yes; it is very useful. It is not what I have spoken of as a means of brain training; it is not nearly accurate enough; it is useful.

7293. But it is better than mere drill—marching about?—It has more influence upon increasing brain power than mere drill.

7294. And other parts of the body, defects of the chest, flat-foot and other defects?—I should not like to speak to the discouragement of the other forms of physical exercises, but I know of no harm done by the Swedish drill; I think it is a very good thing, especially for girls.

7295. *By Mr Shaw Stewart.*—You lay considerable stress on the movements of the eye?—Yes.

7296. Mr Noble Smith, F.R.C.S., told us that boxing was very good for the eyesight; have you any opinion on that?—It would not be good for girls, I think. I cannot give any opinion upon it. It is a very poor training to get the eyes fit for work: it will not do instead of eye drill.

7297. For small children, but I am speaking now of boys. You have no views on that?—I should not think it is anything like equal to cricket, you know.

7298. Cricket is a game?—Unless the boy's eyes rapidly follow with accuracy the ball, and also estimates the distance, he will not catch it. Cricket is, I am sure, a capital exercise of the eye movements and focussing—both.

7299. *By Mr Alston.* — You said that high and closely-built houses and want of light and air were very detrimental?—I believe so.

7300. To the children in the locality?—I believe so.

7301. Have you any means of comparing one city with another; for instance, Glasgow and Liverpool?—No.

7302. As to population to the square yard?—No; I have compared the children in the different areas. You have seen the table that was sent in.

7303. In London?—In London. I only suggest the problem. If a census is to be undertaken, it is a problem that should be solved. It wants a larger work than any one man can do.

7304. But you are satisfied that it has that serious influence upon the children?—It looks like it. I think

that your census will want to go much further. I hand you a report of a school at Brighton as a sample of a report. If you are going to say that there should be anything like a medical inspection of the schools, you must give some indication of the form of reporting. I take it you are going to get to know your delicate children in a school.

7305. *By Professor Ogston.*—Pray allow me to have the use of that for a time also; I will return it within a day or two?—There is the report and what I should recommend; there is the written report which was sent in, for instance, to the School Board, and the form of card, filled in; you have seen forms of card for each child. Then that card is an indication to the trainer what points he may do and what points he may not do. Those put down here as bad movements are the things he tries to get right. At the next inspection you would like to have your cards altered; what was bad before should now be right. These are the cards corresponding to them.

7306. *By the Chairman.*—Have you much knowledge of the physical exercises that are done in London schools other than Board Schools?—No; not really.

7307. Do you ever go and look at them?—I hardly ever go now.

7308. You used to?—Yes, ten years ago.

7309. At national schools?—Yes; at national schools.

7310. And did you find physical training tolerably common?—It varied immensely.

7311. But there was nearly always some of it being done or not?—Oh, I think so; I think there was generally some done.

7312. And when you say formerly, what date, please?—Ten or twelve years ago.

7313. Was there any authorised physical training in the Board Schools?—In the Board Schools physical training was under inspection. Then, unfortunately, to speak of that, although I have spoken in praise of their general training I must confess they had a great many things that I think did a good deal of harm. For instance, they taught the children to make lordosis, curve the spine back; they teach them to draw back like that, to make an artificial lordosis until it becomes almost a confirmed habit; I have seen that taught.

7314. *By Professor Ogston.*—Do you consider the straight back of a soldier morbid?—No; but he does not make an artificial curve.

7315. I think he does?—I mean a little extra curve more than the normal; I am sure if you saw it you would say it was not the normal.

7316. *By the Chairman.*—You were not very complimentary in your remarks about military drill; I want to know your opinion of that; the benefits of it?—I think it is useful; let us have military drill; I should give my vote for it, but we want a good deal more added on.

7317. I am talking of military drill as applied to boys between the ages of fourteen and eighteen?—Oh, well, I think then it is very good; that is a very different matter.

7318. You have nothing to say against it?—No.

7319. That is part of our remit; part of our enquiry?—Oh, yes; talking of fourteen to eighteen, I should say most strongly it is likely to be useful.

7320. You have no objection to such an institution as cadet corps or companies of the Boys' Brigade?—I think they are all good; they tend to make them act in harmony, and bring them under discipline and control.

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7321. They do not do any damage, but rather the contrary, to health at that age?—I do not think they are likely to at that age; I do not think that any drill of that sort would prove harmful.

7322. And probably would improve habits and manners?—Yes, I think so.

7323. Quite possibly, in some degree, habits and general morality?—I think so; certainly athletics tend to. Our college runs much better with athletics. We support a ground. I subscribe to it in order that we may be able to run our college well and keep our students in order.

7324. If you think that, why should you condemn the effects, as I rather gathered you did condemn them—the effects of military drill?—I do not object to military drill; I object to the harm of leaving the mind of the child untrained by not doing movements as well.

7325. You only apply it to children at that time?—Yes.

7326. Under the age of fourteen?—Yes; I am speaking of the children of school age as needing exact training in movements.

7327. There are various modes, as you know, of military drill; do you object to the mere marshalling of children in twos or in fours and marching them from one room to another, because that is military drill, remember?—I think that is a very good thing; you can begin that in the infant school.

7328. You do not object to that?—No, I do not object to the military drill.

Drill *plus* other exercises.

7329. What part of the military drill, as applied to children, do you object to? What do you call military drill; what do you object to in military drill?—I object to leaving out other forms of physical exercise. Give them physical exercise by all means, but give them also free exercises and the training in movements that I have very briefly touched upon.

7330. Then I may take it that it is simply an objection to military drill being solely given?—Yes; I would not say that I object to military drill, I object to that when you give military drill only, and you neglect all other forms of training. I do not suppose you mean to omit other training, but in the school that I quoted they did neglect all other forms of training.

7331. I am very glad to hear you say that; I did not quite understand it?—You have not gone into the question of harm that is done for certain children—harm and cruelty from drill.

Medical inspection of schools.

7332. Generally speaking, I think I may take it from you that you think no exercises ought to be initiated—I will not say actually carried out, but initiated—without some medical advice in schools?—I think that there ought to be medical inspection of schools, one of the advantages of which would be to say what is to be done, and that particularly applies to resident schools under the State, Poor-Law Schools, and Certified Industrial Schools, and particularly to those under the Home Office, which are, or used to be, penal establishments, and in which some of the drill exercises which I have seen in them, and that is some years gone by now, I thought extremely cruel, fixed positions of the arms held out, causing great fatigue.

The witness withdrew

Mr Eugen Sandow, examined.

Mr E. Sandow.

7333. *By the Chairman.*—Do you call yourself a professor of physical culture?—A professor of physical culture; yes.

7334. You say you have to hand in, to begin with, a few suggestions and ideas on physical training?—Yes.

7335. And you say that the words 'physical culture' convey very little to the ordinary observer?—Yes.

Physical culture: definition and aims.

7336. But that you have to look to the medical man or the expert in physical exercises, which is not the same thing necessarily for the true meaning of the words 'physical culture,' and you say it means an education of the whole of the muscles of the body, a thorough and systematic blending of the whole of them; that athletic sports and games are physical culture more

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or less; but the disadvantage of them, from an educational point of view, is the localisation of the exercises. Perhaps you would explain that a little?—Athletic sports and games are physical culture, more or less, but the disadvantage of them, from an educational point of view, is the localisation of the exercises.

7337. Then again you say true physical culture will include not only a certain muscular development, but a building up of the whole of the internal organism of the body; in fact, the internal organism is the first aim of physical culture as applied in your schools?—Yes.

7338. A really sound heart, lungs and digestive organs are the first things to be aimed at; muscular development will follow as a matter of course. In fact, with your system of exercises it is a *sine quâ non* that the same exercises that bring about the former will eventually produce the latter. This is what you understand as physical culture?—That is what I understand as physical culture.

7339. There have been various imitations of your system since it was first introduced?—That is so.

7340. But they have all perished?—All perished; yes.

7341. And you remain, and about 9000 to 10,000 pupils on your books. By that you give an idea of the immense strides that your system has made in public favour. You say you give individual attention to each pupil?—That is so.

7342. Yes?—Well, it is under my supervision and my assistants.

Brain and body.

7343. And that for a successful result to be attained the brain must be used as well as the body, *i.e.*, the whole of the will power and mental energy that *can* be exercised, must *be* to attain the maximum results. You say that almost anything can be done with the muscles. In all probability it will take from six to twelve months, and perhaps longer, to bring the body to perfection by exercises practised assiduously, and once you get into this state of muscular perfection, it is very easy to keep there?—That is so.

Time necessary.

7344. To arrive there it has probably cost the individual thirty to forty-five or even sixty minutes' daily exercise. But he is now able to reap the fruits of his labours by keeping the body in excellent condition by fifteen to twenty minutes only per day. After a time it becomes quite easy to sit and read, write, or do anything necessitating brain power, and at the same time to exercise the muscles?—That is so.

7346. And that, you consider, is the pitch of perfection?—That is so.

Witness' system.

7347. That you can do two things at once?—Yes.

7348. You go on to say about the present methods of application in your schools, the pupil is first examined medically; how many doctors have you?—Well, I have one at present, who goes round at present to every fresh place.

7349. Every fresh pupil is examined?—Oh, yes, appointments are made.

7350. And what his state is, is it put down in a book?—Oh, yes.

7351. Measurements are taken and so on. You say the weaker pupils, being always under the instructor's eye, he can with a movement of the hand stop or increase the work as the case may require. By this means the weak may be taken with the strong without fear of exhaustion. Where possible, a better plan still is to have all the weaker ones together in a class by themselves, so that they may be treated still more carefully and individually without appearing weak or done up in front of their stronger companions. The above system has been in use in your schools since their introduction in 1897, that is five years?—Yes.

7352. Not one case of exhaustion has ever been recorded. This is all the more remarkable on account of a great many of the pupils being constitutionally weak on joining, which, of course, is the reason why they come to a large extent?—Yes.

7353. Many cases of heart, lung and stomachic weakness have been through your schools with marked result, and in the majority of cases complete cures. You have a branch of your system which includes medical cases such as indigestion, dyspepsia, heart, lung or other troubles. These are treated quite individually and with surprising results—many of the best West End physicians sending their patients to you for exercises for the treatment of some disorder. Do you have girls in your classes as well as boys?—Oh, yes.

7354. The exercises consist in one part of a series of movements carried out with or without apparatus in the shape of wands or dumb-bells. The movements are usually gone through to a musical accompaniment, the one idea of the drill instructor being to obtain uniformity and precision. To this end he sacrifices everything regardless of the child's strength, etc. Each child is made to do the same amount, because to stop some while others were working would spoil the whole thing from a spectacular point of view. This, then, is the essence of mass drills as they are called. Of the exercises themselves a word might be said: some are good, others absolutely useless except from a spectator's point of view. Where a few good movements are executed the benefits are considerably, if not altogether, lost by the way they are done. Everything having to be done to time, a good exercise is very often entirely put on one side because it does not *fit in* to a bar of music, or because it does not look pretty. Gymnastics pure and simple on apparatus should at first be avoided for young children. First, because the average child of to-day is not strong enough, and secondly, because the exercise, even though the child is fairly strong, is too much localised. When you say the average child of to-day, do you think he is worse than he used to be?—I want to say generally one boy and one girl is not as strong as another.

7355. You do not say he is weaker than he used to be, to your knowledge?—Yes, I should think so.

7356. You think he is weaker than he was when you were a child?—Well, I will not say that, but as far as I remember he is going backwards.

7357. For instance, a squad of children are in a gymnasium; the instructor sets the exercise and some do it (a very small minority), others attempt it and fail, others, although too weak really, are made to attempt it and fail ignominiously, resulting in, if not a strain, some scathing remark from the instructor. In any case no benefit is obtained. This goes on from day to day, and the only ones to benefit from the course of gymnastic exercises are those who were fairly strong and fit to commence with, and consequently did not need it so much. Those who really need exercises have obtained little if any, and are certainly not benefited organically or muscularly. What is wanted, and what I would suggest, is to give every school child a really thorough and systematic training of the body, bringing first of all the internal organs to a healthy state, and then the muscles of the body. I would suggest starting first on the chest internally by giving every child a short course of breathing exercises. By strengthening and developing the chest, I would give every child a good start in life, the lungs a greater capacity, the heart a stronger action, and the digestive organs a better tone to enable them to perform their functions with greater ease and less inconvenience. By this time the child would have become able to take a keen interest in his or her anatomy, and the muscular development would take place accordingly. The child if educated to this idea from its school days, would look upon these exercises as part and parcel of its daily life, and I am sure enough interest would have been aroused to ensure them carrying the exercises on through life, thereby raising not only their own but the future generations' standard of physique. An additional incentive to carrying on the system after leaving school is that little or no apparatus is required, a pair of dumb-bells being about all that is necessary, together with twenty minutes per day devoted to it. Considering the time devoted to eating, drinking and sleeping, three other necessities of life, this time, twenty minutes, is, I am sure, very small indeed for something which is quite as important as either of the above.

Suggested methods of application in schools.—I would suggest that a headquarter school be established for the training of instructors, to be under the general inspector of schools. A competent staff would be established to train these instructors, who would in turn be sent to the schools to instruct children. The exercises should take place from four to five days per week, for, say, thirty minutes per day. For some children a proportion of this time should be devoted to running, marching, and some other recreative exercises as the general inspector of schools may direct. In addition to the Sandow or any other system of physical culture, which may be adopted, before starting a course of exercise each child should be medically examined, and the following measurements taken on joining, and from time to time during the course:—Neck, chest contracted, chest expanded, chest normal, waist, weight, height, lung capacity in cubic inches. Where possible the children to be divided into classes of not more than thirty to fifty, varying with the number of scholars in school, the time at disposal and the general physique.

7358. You mean to say classified as to physique?—Classified as to physique in divisions.

7359. And not as to their places in school educationally?—Oh, no, according to their physique in the divisions.

7360. If it could be done?—It is quite simple.

7360A. Special note to be taken of weak children or those suffering from curvature, or any other physical peculiarities—curvature, by the way, being very prevalent amongst school children of to-day, owing to the incorrect positions adopted while at their desks, lack of some systematic exercise, and thoughtlessness of parents in their methods of carrying the children when young. The Sandow system at present consists of twelve different series of exercises, all of which are applicable in some form or other to children. On entering the school and commencing a course of exercise, a child should be examined, and scale of work alloted to suit its strength, the exercise being increased and varied from time to time in accordance with the progress made. I should not recommend any system of exercise of physical culture to take the place entirely of games, or *vice versa*. To dispense with the former would be injurious to the health of the children, to dispense with the latter would be to take away the recreation and diversion from work provided by games, in short it amounts to any 'physical culture' to be taken seriously and systematically, and games as a recreation and a complete change from work. Physical culture is school and games complete?—It is; yes.

7361. Time, place and clothing.—Time.—Where convenient the exercises should be taken before the mid-day meal, say at 11 to 11.30 or from 3 to 3.30, thereby obviating the necessity of exercising immediately before or after meals. Place.—The school playground could be utilised in summer, provided the ground was covered by some suitable material to allow of pupils lying down. In any case, if convenient, it is far preferable to exercise in the open air. In the winter a large room slightly heated, but well ventilated, might be used with advantage. The sexes to be exercised separately except in the case of very young children. By very young children, you mean children under seven years of age?—Under seven, yes.

7362. Clothing.—To have a special dress for exercising would entail too much time being taken up while changing. A light dress, loose at the waist, neck, and wrists, should be worn by females, and ordinary clothing, minus coats and vests, for boys. Shoes to be substituted for boots, when and where practical. The instructor in charge to be responsible to the general inspector of schools for general results, discipline and cleanliness of the children.

Division of districts.—Schools to be divided into districts, each district with a superintendent to be under the immediate supervision of headquarters. The instructors to be periodically examined and tested in efficiency by the general inspector of schools, who will in turn furnish the directors of schools in general with a report from time to time.

Results obtained.—Appended I beg to hand you a few measurements, etc., showing results obtained by a few of my juvenile pupils at different schools, together with the measurements of boys at the London Orphanage Asylum, Watford. In addition to this I have had numerous pupils who have come to me deficient in chest, weight and height, for army, navy, civil service, and life insurance examinations; in fact, in one school alone, viz., St James' Street, I have during the last four years passed through over 500 such cases. In addition I am in possession of testimonials of prominent medical men testifying to the efficacy of the Sandow system as applied to medical cases, such as spinal curvature, paralysis, muscular atrophy, etc. Also the fact of my having started in St James' Street with thirty-five pupils in November 1898, and now having ten schools in London and the provinces with, roughly, ten thousand pupils on the books, will serve to show the manner in which this system of physical culture has leapt into public favour. I think I am quite right in asserting that once a pupil joins the schools, it is seldom he severs his connection with them entirely. Either he takes a course at the school, attending every day, or working at home, and from time to time attending the schools for further advice and tuition. The necessity for a recognised system of physical culture is, at the present day, more or less obvious to the individual who has the welfare of the physical training of children at heart. One has only to see the average child in the playground. Where not fully strong and robust the child is usually pale, with a very cramped chest, poor limbs, and physique generally. I think that the foregoing remarks will, with the accompanying statistics, go a long way towards inducing you to consider the advisability of adopting a system of exercises which has been the pleasure and study of my life to bring before the public with the object of raising the physical and moral standard of the present and future generations?—These are some of the measurements (*document handed in*). Sandow system: results.

7363. *By Sir Henry Craik.*—Have you had much to do with the elementary schools for younger children?—No, but I have watched them very closely, because it is my intention later on anyhow to get the position to superintend such a course. Of course I have very many children in my schools, and these are the statements which I have brought along, measurement forms, etc. I have about 600 children in London in my school.

7364. Of what age?—Well, from five years upwards.

7365. You would begin some sort of physical instruction, then, at five years of age?—Oh, yes, I should think you would start from four years of age in a very plain way. Physical instruction necessary for children from four upwards.

7366. A very much modified form of your course?—A very much modified form, that is all.

7367. And go on to gymnastics of a harder kind at what age?—Well, gymnastics, as I said before, I would use that more as a recreative pleasure, not as exercise. It is not real exercise. You see the body consists of so many muscles; you have about 240 muscles in the body; well, if you do a certain exercise it is only loosening a certain spot; you only bring into play by one exercise twelve muscles, and another perhaps three, and perhaps you always work on the same muscles. You must exercise all the muscles in the body so that you get all the nerves into play, all the muscles into play. Gymnastics.

7368. Speaking of that in your evidence, you say it becomes quite practicable after a time to sit and write or read or do anything necessitating brain power and at the same time to exercise the muscles of the body; could you explain to us how that is?—Well, that is done in this way; a man when he wants his muscle developed to a certain extent—the muscles are once developed to a certain extent to the highest perfection, that is to say, the nerve which is connected with the brain which makes the telegraph from the brain to Body muscles and brain: relation.

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the muscle and talks to the muscle is strong enough—the man would be so used to do so that he contracts his muscles unconciously without knowing the same, as I do when I sit by myself and I do nothing. I always keep in condition if I do not do anything for a year; I do no exercise or anything for a year; I do exercise at the very moment I speak; I exercise my muscle by contraction. By contracting the different muscles you get control of every individual muscle in the body, and it is just like a little child lying in the cradle; the child does it unconsciously; you will see a child stretch itself and contract all its muscles. Well, that is nature's gift in that case; later on a man will contract. I can show you what I mean by contraction (*illustrating by the arm muscles*); you exert the muscles each individually while that comes quite in time; if you once develop the muscles you could not help it; you do it unconsciously.

7369. You could not hope to have that in a great number of cases?—Oh, always.

7370. That would be special development?—Oh, no, not necessarily. I dare say if a man practised it as a child; done it for two years as a child or many years, he would not be able to leave it in every case; I have it so in my places here.

7371. Would you tell us how it was that you came first to turn your attention to this subject?—Well, when I was a boy I was very delicate; it seems rather incredible, but it is so; I was very delicate, and I had a very weak chest, and my people took me to Italy—to Rome, because that is the place where they take people when they are weak-chested, and I was very delicate, and when I saw all the beautiful statuary there sculptured and all that, as a child I asked my father, 'How is that man developed to that extent as 'they were then.' He said, as one would speak to a child, 'Well, you see at that time they did not have 'all the conveniences; people had to fight with their 'strength; they had no elevators or lifts to go upstairs, 'they had to walk up; everything had to be done by 'labour, and the finest and strongest man was the hero 'and the king.' That impressed me so that I thought I wanted to be strong too, and then I got my father to buy me some books, and so I studied lots of books and studied medicine, and so I arrived at what I have done to myself.

7372. Have you compared the physical training as it is carried on in the different nations that you have come into contact with?—Oh, yes; well, I have compared them.

Physical training in Germany: universal.

7373. Your own country, I think, is Austria?—Germany is my own country. Well, they do more gymnastics there, but the real training in Germany is more the military training. That is why men do not want physical culture so much as they want it here, in England, because a man in Germany, whether he wants to or not, must be a soldier, and he is trained; the foundation is laid in him by the military authorities.

7374. That training comprises more than mere military drill; it comprises some advanced physical exercises?—Of course, all the movements that I do more or less lay the foundation; not quite perfect as physical culture, but it certainly lays the foundation, and that is why the German nation—the men—are in better condition, and are so very much finer, stronger men, owing to the military system there.

7375. Do you know how far it is carried on in the schools there?—Well, it is done now; they are adopting my method in Germany, all the smaller movements, dumb-bell system. I have a very large correspondence with German schoolmasters and so on.

7376. And it is universal some form of physical training in schools in Germany?—Oh, yes, but there has been up till now more gymnastics than anything else.

7377. But they are changing?—They are changing everything now; there are no monkey tricks or anything like that.

7378. And what other nations have you seen?—I think Germany is about the best for physical training.

Country schools in England.

7379. Have you seen any country schools in England at all?—Oh, yes; I have followed them up; I have seen all the exercises that they do, and so on, and read a great deal about it.

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7380. In Scotland?—Oh, yes, in Scotland.

7381. In the schools?—No, but I have read about it in the different papers.

Swedish system.

7382. Have you compared your system with the Swedish system; what are the differences?—Well, the difference between the Swedish and mine is, the Swedish is done more to loosen the joints; it is not a contracting, not a developing system; it is more loose movements, all the joint movements class, and all this turning out movements which would not add anything to development; absolutely useless.

7383. Your object is not merely to loosen, to make yourself slimmer, but also to lead to the development of muscle?—Of course, to do both.

Boys a girls.

7384. It applies rather more to boys than to girls?—Absolutely to women just the same, because it is for the whole body. The whole body is linked together; in a woman, as in a man, the muscles are all linked together, and a woman wants the strength as much as a man, I think; in fact, more so, for the generations' sake.

7385. And you have found just as few cases of any evil resulting from it in the case of girls as in boys?—I find that it is so much better, especially for girls and women. It is only from weakness, talking now from a medical point of view, that there is so much labour in birth-giving.

7386. But you think that without proper supervision, and careful systematic method, there may be those dangers which you found existing in the school?—There would be no danger whatsoever.

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7387. But you say without the systematic method there would be danger of those evils growing up?—That is so, for the simple reason, for instance, the method that they have adopted. Now take a child that comes from the school—the teacher shows them something simple on the board to follow this up on the rings; of course he expects the weak child, the same age as the other one, to do the same thing. It is absolutely absurd that they should ask such a thing. The child should be first taken up to a certain point to be strong enough to do such things. I think a child should have about 1 lb. dumb-bells; that is quite sufficient; not to lift its own body straight off, which is a great strain on the heart, and if they cannot do it the child goes away, it is left alone; if a child does it, that one that can do it gets the benefit.

7388. The object of having a system would not only be that it might develop altogether the physique of the children, but also that it would guard them against very great dangers?—Great dangers, that is so, and everybody will have a chance; the weak child will have the same chance as the stronger child; the weaker child will be able to come up to the stronger one, because we work up to it.

7389. In games, of course, the strong child is apt to push the weak child to the wall?—Oh, yes, and in games it is sometimes the weak child hurts itself unless it is prepared for a game through physical exercise; it should not be allowed to play a game unless it is strong enough.

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7390. Are you acquainted with any of the physical training institutions in Scotland—Col. Cruden's, for instance?—Not that I know him personally, but I have heard of it; I know exactly the work they are doing.

7391. How does that system compare with yours?—Oh, it is a different thing altogether—absolutely different.

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7392. Perhaps you would just explain one or two points of difference?—The difference is this, that every-one of my exercises is done on the floor, on the ground; there is no lifting, climbing ropes or anything like that, it is all done on the floor—every movement, and the way I would treat a child is this—he will be examined by the medical man as far as the interior organs, after that he will be examined by the instructor, who will have studied the system and will know exactly what

to do, then he will take the measurement and give a muscular test, and from these he will know exactly where that child's weakness is, and so give him the movements calculated to make that child equal in strength. It is just like the strong chain with a weak link—give him only the movements that are necessary to bring him up to that other child; to be equally developed, evenly.

7393. These are the peculiarities of your system?—Yes.

7394. In what respect do the other systems differ from yours?—They do not know what they are doing; they let a child do any exercise. 'Now go and do 'this.' They do not know what it is for, perhaps they want to make it a bit strong; now exercise the calf and then exercise the arm, or *vice versa*.

7395. What you insist upon is the supreme necessity of a careful, thoroughly-studied and well-organised method before anything is done?—That is so, absolutely.

7396. That it should not be done without expert advice, and without the charge of an expert?—That is so.

7397. *By Mr Alston.*—In one part of your evidence you seem to disapprove of musical accompaniment to the drill?—Yes, I do.

7398. Why do you disapprove of it?—Well, I disapprove because of the attention; as I say in another part, there the brain must be used with the exercises. For instance, if you take, say a blacksmith, of course everybody knows that the blacksmith does very hard work; he certainly does tremendous hard work, for filing away a horse's shoe or making one, wants a tremendous power. His mind is directed upon the horse's shoe, not upon the muscle he is exerting at the moment. If his mind would be directed upon that muscle he would develop a far greater and finer muscle than he has.

7399. Would he neglect the horse's shoe?—I do not say that he should neglect it, but I think he would certainly; he could not pay his attention to the horse's shoe just as well as the muscle.

7400. Some witnesses have objected to the musical accompaniment because it tends to neglect of the details of the drill?—Well, that may be.

7401. Mistakes are uncorrected?—That is a very good point.

7402. You quite think that is the case?—Yes, absolutely.

7403. But you would go the length of saying, that having perfected the drill or the physical training, then musical accompaniment might be added as an attraction?—I would have no objection to that, as an attraction, yes.

7404. Then another point you have advocated, that a headquarters school should be established for the training of instructors, to be under the supervision of a general inspector of schools. Who should these instructors be?—Well, I should think the best men for the purpose, for instance I have army men, men retired from the army, sergeant-majors and so on.

7405. You prefer a retired soldier for this purpose?—Oh, yes, an army man, they are so good disciplinarians.

7406. Would it not be possible to train the school teachers, both male and female?—Yes, there would be a possibility, but it would not be the same, not exactly; you would not have the same benefit.

7407. Would it not be rather an advantage to have a teacher who has the child under supervision the whole day both in mental and physical exercises?—I think the teachers would be always inclined to go on in their old groove. If you start a new thing, start a man with new ideas.

7408. Yes, but they would be passed at this school; I am supposing that they would be passed at this headquarters' school which you advocate; if so passed with a certificate in their hands, you would entrust them with the duties, surely?—Yes.

7409. So it is not necessary to have an ex-military man?—No, not necessarily, but if you want a new man, it would be the ex-army man.

7410. Or a lady?—Or a lady.

7411. Male or female?—Well, female—I do not approve so much of a female for teaching. *Mr E. Sandow.* 10 June '02.

7412. You do not?—No, I had a great deal to do in my school in Ebury Street, where I have about 1200 ladies; some of the ladies objected; they did not want men; well, I had a great trouble to get ladies there, and then the ladies were no good; they all wanted to turn back again to the men; ladies cannot teach. It is no disrespect to them. Female teachers.

7413. We had the privilege of seeing over a school, and we saw 270 girls at drill, at Swedish exercises; in each squad it was the female teacher that put them through, and we could see that not only did the children do well, but their teachers did well and were perfectly competent to instruct?—Of course I speak from this system, I do not know what they did there.

7414. But it would be quite possible to instruct female teachers?—I daresay it would be.

7415. To handle children?—I have not been successful; it was not bad; but it was not the same as a man.

7416. Another point, you desire to limit the number of children in a class to thirty or fifty?—Yes. Limits of a class.

7417. That is in order that each might be thoroughly looked after?—They should be absolutely.

7418. That would take more time and more room, would it not?—Well, it would not take much more time; it may take a little bit more room; but it does not take up much room to instruct fifty children.

7419. Still we are considering the existing schools and what might be done in these schools, and we are limited in space and limited in time?—Thirty children, of course you can have twenty, but with thirty you would not take up much room.

7420. But in a school of 1900, as we have sometimes, how could you get over the classes for physical instruction with twenty or thirty in a class?—Get them into three divisions, the stronger ones all equal and one need probably only want two divisions. It all depends on the children whether they have to be divided into two lots or into three lots.

7421. Is it not rather difficult supervising the large number of children you refer to?—That is so; that is what I am speaking about. Say that you have strong, weak, and delicate, you would call them; if you have a delicate class you have the middle class and you have the strong.

7422. You speak in one part of your evidence as to the sexes being exercised separately; is there a necessity for that?—Well, for the simple reason that some movements are on the floor, you see; say about 25 per cent. of the movements, and all done upon the floor by legs raising and movements, and so on. Boys and Girls: clothing.

7423. But if the girls were in a suitable costume, as many girls now are when they take exercise of various kinds, would that remove the difficulty?—That would remove it; I was thinking about the poor, who would not be able to afford a costume.

7424. *By the Hon. Thomas Cochrane.*—You start with breathing exercises, I think?—Yes. Breathing exercises.

7425. Could you explain just what you mean by that?—Well, breathing exercises are exercises, that is, movements where we make movements at the same time and contract certain muscles of the chest, for instance. I could show you one movement. For instance you take this movement (*exhibiting*); of course I have got about 84 of these movements, different movements for the chest, but of course all the children would not have to go through that, it is only for certain defects; one child would have one, one child would have to do this movement, another one another; it is just as they are arranged in groups—in rows.

7426. It benefits their chest—the breathing?—I can show you that children ten years old increased in chest measurement three inches in thirteen lessons. That is, of course, a very big increase at ten years old. I have them of all ages in the statistics I have brought along for your inspection.

7427. You use army instructors a good deal, do you not—ex-soldiers?—Yes; and I have got a headquarters Instructors soldiers.

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here; I train them in my school; they are with me about four months before they go out teaching; they are still soldiers, but they are allowed to come and learn the system, and as soon as they are able to pass and get the certificate they go away from the military and I send them for my schools as I want them.

7428. Do they become good teachers for your training?—Oh, yes; because it lies easier on a man who is more disciplined; he does exactly what he is told and takes more trouble.

7429. And able to impart the instruction you give him and teach others?—Yes; and they do not make their own ideas. It is always the case; everyone wants to teach something else and choose their own ideas. That is what a soldier does not do; he carries out exactly what he is taught.

7430. Are they mostly non-commissioned officers that you take?—Non-commissioned officers; I have got commissioned officers too as managers in my schools.

7431. But, as a rule, you prefer a man who has had some education like a sergeant?—A sergeant.

7432. You do not take a private, as a rule?—Not if I can help it.

Physical training in the army: effect.

7433. You are familiar with the system of drill—of physical training in the army, are you not?—Well, of course, it is my system which is adopted in the army; they train the recruits by it for six months; all the recruits are trained in the army at Aldershot and everywhere on my system.

7434. And you think very highly, then, of the military system of drill—of training?—Oh, yes, very much. The physical culture is really my system.

7435. It is really your system, and you approve of it?—Oh, yes.

7436. You find that the recruits develop under your system, as carried out at Aldershot and in the various gymnasia?—If you like just to refer to Colonel Fox. He adopted this system when he was Inspector of Gymnasia about nine years ago. He will tell you what an improvement, the difference it has made since he has adopted it, and you would not believe what it has done. I mean, so far as training recruits is concerned. What he says, and what I have seen with my own eyes, the men that I saw then and the men that I see now at the Military Tournament—it is quite a different thing.

7437. There is nothing in the system that overtaxes the strength of the soldier, if it is properly carried out?—Not at all. For instance, you would want to go, then you would be examined, and every muscle in your body would be tested, and then you will get your movements and your exercises according to the requirements of your body, you see, and in some cases we may not give you anything. The most dumb-bell work that I allow is 5 lbs., so you see that cannot be very much there.

7438. Any one who is afraid of a military system as applied to children, that would, in your opinion, be wrong? there is no harm in the military system being applied to children?—No, not at all; but I think it should be more taken as a recreation or something else.

7439. That it should be modified to their strength?—It is really not physical culture.

Military training for children: must be preparation.

7440. But the military system is a good system for children, if it is modified?—I do not approve of the military system alone for children; you want to prepare the children to do military strains and all that; but I do not approve of that at all; I think it is the greatest mistake. You should prepare the body of a child, because there is the same rule coming in again, because you take the strong body and the weak child; you want to prepare it. It is just the same with gymnastics. I myself have never done any gymnastics in my life. I have only done physical exercises in the small numbers. No gymnast can do—the best gymnast cannot do what I can do in strength. There is not a thing that a gymnast can show you that I cannot do, and I have never done it; I will undertake to do it. Now that shows if you have the strength you need not do it. I do not mean agility, and swing or anything of that sort; but take the most difficult thing, pulling yourself up like that, but I will do it at once, and I have never done it, and I will undertake to do it now. That shows you if the strength is there you can do it; you must prepare a child for the purpose.

Ages: modified exercises progressive course.

7441. At what age do you think children should begin their modified exercises?—Well, I think about four.

7442. Up till?—Well, up till—I think they should always keep them on more or less, you know; but they should be first prepared to a certain age before they do any military or anything, any gymnastics or anything at all; even before they play in games they should be prepared, and get a permission from the school or from the inspector, or from head-quarters, that they can play this game, that they are now strong enough.

7443. As soon as they are strong enough; generally at what age would they be strong enough?—Well, I should think about nine years.

7444. At nine years of age they could do stronger work?—Yes, they can go in for more of this work.

7445. And at twelve or fourteen, could they go into the stronger course—the military course?—Quite so; I think they could go in, but never dropping the physical culture part.

7446. If they had been properly prepared by advancing stages up till twelve or fourteen, they could then take up any course—the military or any other course—with advantage to themselves?—Yes.

Chesterton's system.

7447. Do you know anything of Chesterton's system; it is used in the Board Schools in London?—Oh, yes; well, that is not a bad system, but it is not done scientifically; it is not done properly; it is not done in the systematic way it should be done. As I said, there you cannot exercise all as one man. It is just the same as if all you gentlemen were to come to me; I could not give you all the same exercises; one will be stronger than another, and if I put you through all these different movements I should be sure to hurt one of you or do you some harm; it is no good.

London Orphan Asylum, Watford.

7448. Where could we see your system in its various stages from small children of four years up to eight or nine, from nine till twelve, and from twelve upwards?—The Watford Orphan Asylum, that is one school that has adopted it, and they have won all the prizes; the finest children you ever saw, and you can just speak to Sergeant King about it. He adopted it in the school. In the Albert Hall, when I gave that physical display, they were the biggest success; it was a sight to see them; you must go and see them. Let me know the date, and what time you will come, and I will arrange in one or two of my schools. The children, all the children in my schools, and the ladies and gentlemen; if I only know on what date you will come, we will prepare for you.

7449. Thank you?—And I will also be delighted; it is very interesting to let them show you how they are measured, and how they are tested, and all the books, the increases, and the way the books are kept.

7450. But the Watford Orphan Asylum will show us your system from the earlier ages up till fourteen?—Yes, from the earlier ages; and, of course, I would like you to see it in my schools too—the way it is carried on. The Watford Asylum have not taken the measurements yet. That is what he is going to adopt; they have introduced my system, but not quite scientifically; they have not taken the measurements and so on, although we have the boys in different classes so as to get them not altogether.

7451. Could you answer, do they require more food at the Watford Asylum since they have adopted your system?—I should not think so. Of course, you feel healthier. If you feel very healthy you feel like eating a bit more. I do not know whether they give them more food.

Food.

7452. *By the Chairman.*—It is a very important question, that food question; you wish the Commission to understand that the probability will be that children trained after your system would become much more hungry?—Well, I do not know.

7453. You see, you have to look at it in the way of ordinary poor school children, whether there is any

way in which they can get more to eat if you give them more exercises to do that will make them more hungry than they are; how are you going to get over it?—I do not say it will make them more hungry; but you see it is not exactly the amount of food that they take, it is the amount of strength they get out of the food by digesting the food.

7454. Very well, you do not think that it is absolutely necessary that children, in a course of training such as you recommend, should have more food—not absolutely?—Well, I could not answer you. I have not looked into that question whether they eat more or not; I have not found that out.

7455. You quite understand that it would not do for us to recommend something that we will be told, 'if 'you recommend that it is not practicable, because they 'cannot give them enough to eat'?—Well, it would not be as bad as that; but you will find it more stimulates the food, and you get the more out of the food. Your digestive organs are in better working order, and you get more out of it.

7456. May I ask a personal question of you—are you a very fine walker, any distance?—I do not walk very much.

7457. You could?—I could.

7458. If you were told to walk 50 miles, you could do it?—Yes, but I do not walk very much; I can walk.

7459. But the result of your training is such as to enable you to walk?—Oh, sure, I will just let you feel my muscles on my legs, and you can judge for yourself.

7460. *By Sir Thomas Coats.*—You are the first witness we have had who has advocated these breathing exercises?—Well, I am the founder of the breathing exercises; I am the first man who brought them into the schools, my breathing exercises; I think I am really one of the first in England.

7461. I wish to ask you, would you give these breathing exercises to all children; do you think you could safely give these breathing exercises to all children?—Yes; absolutely quite safely.

7462. No fear of straining the chest?—Not at all; only, as I said before, I have got over eighty breathing exercises, and some breathing exercises would be good to some children and some to others; you see, they are arranged in groups.

7463. Can they have any bad effect on the digestion or anything of that sort?—Not at all, just the reverse; because that is the only way to develop the interior muscles only by breathing exercises; I mean your lungs, etc.; it is the only way you can develop them—by the air.

7464. Do you develop the chest largely by these breathing exercises?—Yes; only by these breathing exercises in the interior to open the chest out.

7465. Do you know a breathing exercise that singers use, that is inspiring quickly and then letting the air out very slowly, and practising that so that they can hold their breath for a considerable time?—Of course they breathe abdominally, down here—(*showing*)—all this flat, and abdominally they are pushed out. That is another set of exercises; a special set that I have got for certain movements for that purpose. I have got another set. This is quite a different thing, you see; it is all done like that—(*exhibiting*). It is all compressed in the top part. The air is taken. You take first the air, you see. You fill first one, then you compress the abdomen and press the chest and the lungs out by compression.

7466. The system I have talked of, would that be hurtful?—Not at all.

7467. The practice that the singers use, could that be hurtful?—Well, it is more likely to be hurtful, because that is rather a great strain; it is not done naturally, it is quite the thing.

7468. But you do advocate your breathing exercises very strongly, I suppose?—Oh, yes.

7469. *By Mr Shaw Stewart.*—I would like to ask a question about the Aldershot system; would it be correct to say that the Aldershot system is founded on your system?—Well, you may say yes.

7470. But it is not your system complete?—I spoke about the physical drill, the physical culture part, the dumb-bell part, the ground part.

7471. And the free movements?—And the free movements. Of course, I daresay, as I said before, you may add another movement to it, that may be possible.

Training of teachers.

7472. The reason I ask is because we may have to consider the training of teachers?—Yes.

7473. Would you say that the Aldershot system is a good one for that purpose?—You mean the physical culture part.

7474. Yes, the physical culture part?—Well, it is not complete. It is not exactly carried out as I would like it to be carried out.

7475. Perhaps not for any one that you wished to train specially for physical culture, but for a teacher who has to teach everything to a child, and who would have to acquire only a certain proficiency in physical culture; would you say that the Aldershot system would be a good one for that purpose?—I should think so, yes. It is not very bad; but, of course, it would want to be carried out something like this—each child is treated individually, and measured and tested and arranged in such groups as they should be ranged in, otherwise you would not get the advantage; you would come back on the old; then you put them all up, you let the weak and the strong and the delicate do exactly as they like, and you do not get any further. It is the old thing over again. You only want at once a certain number of children, that is all, where you want to get them all equal.

Gymnastics.

7476. For boys when they have left school, you say that gymnastics are an amusement?—Yes, they should be an amusement.

7477. Another expert witness used the expression that gymnastics was a sport, and is the outcome of physical training; he also went on to say that nobody should engage in gymnastics without twenty minutes' of physical exercises beforehand. Do you think that would be a good plan?—Are you speaking about very small children?

7478. I am speaking of boys after they have left school?—After they have left school.

7479. You see, we have to consider what physical training should take place in continuation schools?—Well, you do not find many boys after they have once left school go in for any exercises; they do not do any exercise; very seldom.

7480. Some witnesses tell us that we ought to recommend that gymnasia should be provided for boys between fourteen and eighteen?—Well, I think, if they do physical culture, and did not waste their time in gymnasia, they would do much better.

Body and brain exercises: a difference.

7481. *By Mr Fergusson.*—On the second page of your paper you mention one of the advantages that the brain must be used as well as the body. Now, applying that to children at school, is not one of the purposes for which you give them physical training, to rest their brain a little? They are using their brain learning their book lessons, and you want an exercise which does not work their brains very much?—Yes; but the brain is used in quite a different direction from learning, because the brain works on different nerves; the nerves do not work in the same way, and you cannot do anything if you learn something, unless you use your brain; if you think on anything else, you cannot learn what you are learning.

7482. So that it would be rest for the brain as regards bookwork?—Well, yes; they must exercise it, or they would not get any benefit; you can only do it by using the brain. In gymnastics and physical exercises up till now the brain has not been used, and that is why it has come to nothing; it is really nothing.

Instructors.

7483. You speak of the drill instructors that you get. Are they gymnastic sergeants who have been in the military gymnasia?—No, not necessarily; they come and study with me; they have not got to go to the gymnasium; they need not have anything to do with gymnasia.

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7484. You certainly insist upon having some well-trained instructor to look after the children while they are doing their exercises?—Oh, yes; there is no question about that.

7485. Because, I suppose, unless it is done under a trained eye, you may be apparently doing the exercise, but just leaving out the very part which is the point of the whole thing?—That is so; quite right.

Applied gymnastics: ages.

7486. You said for young children you would not allow gymnastics with apparatus. At what age might you safely put boys into a gymnasium?—I should think up till ten or eleven; it all depends on their strength and their physique. They ought to be guided by their instructor.

German military training: effect.

7487. You referred to the German military training; has that had a very marked effect for good on the male population of Germany?—Oh, no question about it.

7488. You can speak to that from your personal knowledge?—Absolutely, yes.

Swedish system.

7489. Then, as to the form of instruction for children, you have told us you do not quite approve of Chesterton's; you do not approve of the army system. I do not think you were asked about the Swedish system of training?—Well, that is more an exercise, more for the ligaments; all ligament movements, but very little contracting motions, that is, developing movements.

7490. Is it a good system?—Well, it is a system, as I say; but it is not perfect. It is a system that is done, and yet you do not know what you are doing. They do not know what they are doing in these movements.

Exercises for children.

7491. Then what system do you recommend for children?—Well, physical exercise; a system where all the muscles are got into play, all the muscles in the body, in a short time.

7492. Is that contained in any book? have you got a book of exercises for children?—I have not got it, but I am writing one just now; I am getting one out. Anyhow, that can be got; anything, if you wish to have that.

7493. But at this present moment there is no book of physical exercises for children which you consider right?—No, not for children.

Sandow's system: applicability to schools.

7494. You say a great many of your exercises are done lying down on the ground?—Yes, on the floor.

7495. It would be rather troublesome for schools to apply that system. In ordinary schools you cannot have the children lying about in a muddy playground or the dirty floors. Remember, we are not talking of working in one of your schools where everything is made for the purpose. You have just got to adapt yourselves to the circumstances, which often mean a muddy playground. No system would be much good for our purpose which necessitated lying down. Is that a very important part of your system?—Oh, very important; that is what I say. Other systems have been adopted to suit the schools, and then there is no result obtained. That is what I say; they are not complete.

7496. Does it not come rather to this, that you cannot carry out what you call a perfect system in ordinary schools?—I do not see why it should not be carried out.

7497. One of the reasons is that you cannot make the children lie down on their backs or on their faces in a muddy playground?—Of course, most of the schools have got rooms, have they not? they have got gymnasia and rooms

7498. No, most of them have not

7499. *By Mr Shaw Stewart.*—Not small country schools?—Well, if it is muddy they would not exercise anyhow, would they?

7500. *By Mr Fergusson.*—Well, you would like a system that you can work in a small space indoors, or out of doors when it was fine, but at any time in the year you would hardly want your children to lie down in the playground?—There are difficulties with everything, of course, if you want a thing complete.

7501. That may be the reason why some of those systems which you say are not perfect have been adopted to meet the necessities of case?—They are only wasting time, that is my idea.

Shoes.

7502. You are strongly in favour of shoes instead of boots?—Yes.

7503. Why?—Well, for the simple reason it is lighter, and if they had a pair of shoes on—it does not matter whether they have shoes or boots on in some cases—where they could afford to have shoes it would be much better.

7504. Is it because you cannot get the same action of the ankles and feet with heavy boots on?—Well, no; with laced boots you could get the action, but not as good as with shoes.

Sandow system branch establishments Scotland

7505. *By the Chairman.*—Just one question. Are you thinking of having a branch establishment of your science, if I may call it so, in Scotland?—Yes, I will have a place in Edinburgh and one in Glasgow. I am just arranging for it.

7506. And in the event of our recommending anything about your system, there would be some place to which school teachers could go in the future?—Oh, yes, certainly.

7507. When do you expect this to come about?—I intend to open it in four months' time from now.

The witness withdrew.

Rev. W. Walsh.

The Rev. Walter Walsh, examined.

7508. *By the Chairman.*—You are the minister of Gilfillan Memorial Church, Dundee, which is an Independent Church?—Yes.

7509. Would you mind reading out your notes to the Commission?—I am asked my opinion upon the existing provision of Physical Training, and I reply—Inadequate. Not always of the most beneficial character.

Physical training: suggestions.

1. Physical training should be co-ordinated with mental training, as of equal honour, and as an integral part both of elementary and secondary education. Sufficient apparatus and teaching staff should be provided, ample place on the time-table should be set apart, and liberal grants should be made for efficiency. In some Dundee Board Schools fifteen or twenty minutes a week is all the time given. The extra gymnastic instruction in the secondary schools is of the most unsatisfactory character, so that older boys do not care to avail themselves of it.

Benefits.

2. Great benefits might be expected to follow, both to the physical and moral life of the individual and the corporate life of the nation.

Scientific training.

3. Such training, however, should be scientific—based upon the physiology of the human body; natural—should aim at developing all the natural powers in obedience to all Nature's laws; rational—should be adapted to pupils of varying degrees of physical perfectness and constitutional strength; theoretical as well as practical—should be accompanied by exposition of the natural laws under which the various exercises proceeded; universal—as including girls equally with boys.

True ai

4. This involves the adoption of a higher, more entirely human type of education, which shall be neither—

(*a*) Commercial — a system of cram, directed to making us a nation of clerks, in the vain hope of thus securing British supremacy in the markets of the world; nor

(*b*) Military—a system of drill, directed to making us a nation of soldiers, in the equally vain hope of thus preserving British supremacy amongst the nations of the earth; but

(*c*) Humane—an all-round culture of the whole boy and girl—the weaker and defective as well as the strong and perfect—with the view of producing a perfect type of the genus *Homo*, bearing in mind that 'the

'strength of *the* citizen, not *a* citizen, is the strength of 'the State.' (Mr A. Alexander, Director of the Liverpool Gymnasium, in his valuable book *Physical Drill of All Nations*, p. xii).

5. The work of this Commission should result in the 'real improvement and development of a system of 'physical training for the youth of the country.

B.—1. There are numerous signs, however, of a desire to shunt the question of physical education on to the easier, showier, and less beneficial lines represented by military training. Amongst these may be mentioned the following:—

As to day schools—

(1) The 'Terms of Reference' upon which this very Commission is conducting its inquiry is being construed into a mandate for the formulation of some scheme of military training. This must be my apology for venturing to detain the Commission on this part of my evidence. And it may happen that, in defining the false, I may also outline the true. The Chairman of the Dundee School Board, from the Chair, interpreted the Remit as a movement for 'further instruction in 'physical exercises, combined with military drill . . . . 'so as to form a national bulwark for home defence in 'time of danger'—with more to the same effect. (*Dundee Advertiser*, May 6th, 1902.) A member of the same Board, Mr G. K. Smith, in the course of the same discussion, declared that 'one of the first objects . . . 'was to have the young people in such a state of training 'as to be ready for military service. There was every 'reason why this training should begin at as early an 'age as possible, and it was only fit that the School 'Boards of the country should take up as a part of their 'duty, ensuring that the children under their charge were 'properly trained and disciplined so as to be ready for 'the army or the irregular forces.' (*Dundee Advertiser*, May 6th, 1902.)

(2) Lord Wolseley, some years ago, expressed a regret that 'when universal education was started in England '(Britain!) every Board School had not had attached to 'it some sort of military organisation, or some military 'instructor, entrusted with the duty of drilling, and thus 'to foster among them a spirit of military discipline.' (*Times*, February 10th, 1890.) Some School Boards would appear to be now prepared to supply the desideratum of Lord Wolseley.

As to continuation classes and 'elsewhere'—

(1) Lord Balfour of Burleigh's Memorandum to Scottish Boards on Physical Training, February 1900, has led to the formation of numerous cadet corps.

(2) Private schools are generally forming cadet corps.

(3) Eton and other great public schools send companies every year to the military manœuvres at Aldershot.

(4) The boys of the London workhouses and some rural workhouses are instructed in military drill.

(5) Cadet battalions are being formed in large towns amongst boys beyond school age, and are being diligently fostered by military men on the ground that they feed the various branches of His Majesty's army. 'Out of 500 who have passed through the ranks of the '1st Cadet Battalion Royal Warwick Regiment, 80 per 'cent. have continued their career in either the Line, the 'Militia, or the Volunteers.' (Major A. V. Fordyce, quoted by Rev. J. P. Gledstone, in *Boy Soldiers*, p. 3.)

(6) Suggestion of Major Fordyce that 'Cadet 'battalions be formed in every town and village dis- 'trict in the country, and that every lad on leaving 'school at fourteen should serve on one till he is 'eighteen.' Subsequent declaration that 'he would 'like to see this made compulsory.' (*Ibid.*, p. 4.)

(7) Expressed desire of Lieut.-Gen. Sir Gerald Graham to 'make it a condition of giving you free 'education.' (*Ibid.*, p. 4.)

(8) Published proposals to make drill compulsory for all boys, the War Office to issue regulations, undertake annual inspection, issue arms and ammunition, provide shooting ranges, etc. (Letter, *Daily News*, November 29th, 1901.)

(9) Testimony of the Rev. E. C. Selwyn, D.D., Headmaster of Uppingham School, that 'all its 440 boys 'have passed in shooting at the Morris tube range, first 'or second class, as the result of two years' persistent 'work.' (Letter, *Times*, quoted by *The Herald of Peace*,' February 1st, 1902.)

(10) Correspondence pointing to the readiness with which New South Wales rallied 'to the flag,' and the familiarity of the men with military details, and claiming it as due to their previous training in the cadet corps, which exist so largely in the colony. (*Spectator*, March 10th, 1900.)

(11) Sir George White hails the Lads' Drill Association, of which, I believe, the Earl of Meath is president, as a step towards a 'nation in arms,' and becomes a life member. (Letter in *Daily News*.)

(12) Military men and their supporters diligently try to make military drill appear as the best kind of physical training, and to a large extent succeed in imposing their fallacy on the country. The cry is 'physi- 'cal training,' but the aim is military service. (See *The Effects of Military Drill on Boys*, by Dudley A. Sargent, M.D., Director of the Hemenway Gymnasium, Harvard University, Mass., pp. 2–3.)

Military training for boys fourteen to eighteen: tendency.

(13) It is clear that a movement, or tendency, exists whose object is to enforce universal military training upon all boys from fourteen to eighteen years of age, and to produce a state of things hardly distinguishable from conscription. Continuation classes are to form a connecting link between the school and the barracks, and an easy method of turning the scholar into a conscript. But the true end of education is to make men, not soldiers.

Objections and reasons.

2. It is certain that strong resentment is felt by many people throughout the country against these attempts to militarise our youth, and that determined opposition would be offered to any action on the part of the authorities to give them practical effect. And for these reasons:—

(1) The agitation is artificial, not rising from the people, but worked up from above—from the War Office, military men, a section of the governing class, and some desperate ecclesiastical leaders who, at the terrible spectacle of a world in arms, have lost faith in the moral power of their religion.

(2) The country does not desire military training for its youth. Parents do not desire it, boys soon weary of it. The Newcastle-on-Tyne School Board, two years ago, 'put its foot down' on a suggestion of its physical instructor to introduce military drill, and restricted that element to some simple marching evolutions. (Letter from Mr Alfred Goddard, Clerk to the Board, June 2nd, 1902.) The Dundee Trades Council, by a majority of three to one, voted against its introduction into schools. (*Dundee Advertiser*, May 15th, 1902.)

(3) Our system of universal, compulsory education would never have passed the nation's bar if it had been weighted with such a condition as Lord Wolseley desiderated. (See B. (2).) An attempt to now graft it upon the Public School would imperil that institution. The Board School originally contemplated a clear way from the school to the university, but never from the school to the army.

(4) Military drill would have the effect of drawing the youth of the country away from the more beneficial field sports.

Games and military drill.

It is advocated as a counter-attraction:—

(*a*) 'By the time the lads are old enough to join the 'Volunteers their preference for field sports has been so 'confirmed that Volunteering is quite put on one side. 'I think the extension of cadet battalions will be likely 'to remove this to a great extent.' (Major A. V. Fordyce, quoted by Rev. J. P. Gledstone, in *Boy Soldiers*, pp. 3–4.)

(*b*) 'There is only one way to deal with the mania 'for sports and games, and it is by the expulsive power 'of a new enthusiasm. I have known excellent boys 'whose ruling desire was to shoot an enemy in fair 'fight. Your article will do something to change the 'venue, to promote a new enthusiasm, and to encour- 'age the art and instinct of national defence.' (Letter of Rev. E. C. Selwyn, D.D., Headmaster of Upping-

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ham School, to the *Times*, quoted in the *Herald of Peace*, February 1st, 1902.)

Military drill: objections stated.

(5) The danger of turning the minds of the workers and thinkers of the country away from industry, agriculture, production, invention, to soldiering is self-evident—and much more serious.

(6) It is reasonable to infer that the increased use of, and familiarity with, weapons of destruction, must lead to a grave increase in the number of homicidal accidents or crimes, and thus foster a lawless and criminal spirit in the community.

(7) Military drill entirely excludes one-half the children of the nation—its girls. The motherhood of the nation is not less important than its fatherhood. And as girls, from their usual occupations, are denied the same opportunities of physical development that boys receive in their daily work, there is the more reason that any scheme of physical culture should give them equal place with the boys.

(8) It is obviously unsuitable for, and therefore entirely excludes, young children. An expert on the subject declares that even 'marching is of next to no 'use in developing the physique of a child, since it leaves 'the muscles of the trunk entirely untouched . . . 'may be too violent an exercise for a child; it is needful 'to go on quietly.' (Rev. A. W. Jephson, M.L.S.B., personal Letter, June 3rd, 1902.) 'What is needed is 'a variety of exercises such as will develop all muscles. 'By such means good results are obtained even where 'children have a very poor physique to begin with.' (*Ibid.*)

(9) For similar reasons, it absolutely excludes the numerous class of children who are delicate or defective—as where there is malformation, local weakness, or constitutional debility—for in such cases it would only increase the already existing defects. (*The Effects of Military Drill on Boys*, Dudley A. Sargent, M.D., pp. 13–15.) 'At schools where ill-fed children attend, the 'exercises have to be made less fatiguing. . . . The 'instructor must be a man of discrimination—able to 'detect a child who is weak or ill; such children must be given little exercise.' (Letter from Mr Alfred Goddard, June 2nd, 1902.) But this is precisely what a military system would render impossible. Mr Jephson also mentions the case of a boy, well known to him, 'whom no army sergeant would have accepted, 'who was brought up to a fair standard of physical 'fitness by (an) all-round training. Even the blind,' Mr Jephson continues, 'can be trained in this way, 'and given confidence, as well as an improved phy-'sique. A class of blind young men, or boys, or both, 'are thus being trained under his supervision.' (Letter, June 3rd, 1902.)

Military drill for strong boys: objections.

(10) Even for the residuum of strong boys left from this process of necessary elimination, military drill does not constitute the most beneficial form of physical training.

(*a*) It is not scientific and natural, but artificial. The figure produced is not the type chosen by either the artist or the athlete. It does not meet the physiological wants of the human body. It is mechanical, monotonous, wearisome, making no high demand upon the moral earnestness, upon the enthusiasms, and unable, therefore, to produce the highest physiological results. It does not sufficiently quicken the respiration, or increase the circulation. It has to be supplemented by a scheme of 'corrective exercises.' (*The Effects of Military Drill on Boys*, p. 9.)

(*b*) From 'Statistics of the drill and gymnastic 'training given to twelve boys in the Much Wenlock 'National School' for six months, it appears that when drill alone was given, the average increase in chest measurement was 11-24th inch. But when drill was combined with gymnastics—including Indian clubs, vaulting horse, horizontal and parallel bars—the average increase was 1⅝ inches—a result three times better than the other. (Letter, Edward Stroud, Schoolmaster.) The time spent on military drill was therefore time wasted.

Conclusions.

(11) The logical conclusion is, that military training would be bad as education, and therefore bad for that civilisation education is intended to advance. It would foster the delusion that the fighting-man was the highest type. It would encourage the dangerous fallacy that war was necessary, natural, and inevitable. It would feed the presumption that military training was necessary to a nation's strength and permanence, and that a military civilisation was a higher type than an industrial one—a presumption contradicted by every lesson of history and every principle of religion.

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(12) It is surely impossible that universal and compulsory military training, in the sense set forth, could be made an integral part of the education of British youth. It is entirely contrary to our genius, our history, our religion. Large numbers of our people would refuse, under any pressure, to submit to it. It would be vain to try to meet their case by means of a 'conscience clause.' We know from experience in other regions of British school life how ineffective such protections are.

Boys' Bri

C.—I am asked my opinion upon Boys' Brigades as connected with the churches. My opinion is, that considered as war they are not good; and considered as religion, positively bad. The churchman has never been slow to recognise that the child is father of the man; and that as the twig is bent the tree is inclined. Hence he has tried to capture the child early by the glamour of military methods. But the soldier is equally alive to the possibilities of youth, and is indebted to the churchman for a new means of popularising the army. Let the good intentions of the founders and workers be fully admitted; also the excellence of the athletic, musical, and similar agencies carried on. The peculiar feature of the Boys' Brigades—the feature that differentiates them from other religious organisations—is the military element; and it is this element that, like a fly in amber, vitiates all the rest.

1. The charge of militarism is strenuously denied by the supporters of the movement.

Militarism evidence o

2. But is abundantly proved by many facts:—

(1) The Press constantly describes them as 'embryo 'warriors,' 'boy soldiers,' etc.—proving in what light the journalist regards them.

(2) Military men constantly speak of and to them as if they were a kind of juvenile Volunteers:—

(*a*) 'The Presbyterian Churches have adopted 'military organisation for their schools and classes, 'and no fewer than 17,000 boys are now enrolled.' (Lord Wantage, at meeting of National Rifle Association, quoted by Rev. J. P. Gledstone, in *Boy Soldiers*, p. 1.)

(*b*) 'Some day, should the Government ever want 'to raise Volunteers to do barrack duties in this country 'in the absence of the regular army on foreign service, 'they could not do better than look to those who had 'had this early training.' (Mr Robertson, quoted by *Christian World*, February 20th, 1890.)

(*c*) 'Your corps seem to have two great aims in 'view,—first, to imbue their minds with real childlike 'faith in God; second, to drill their bodies in those 'military exercises that will enable them, as men, to 'defend our country against the attacks of all enemies.' (Lord Wolseley, quoted by *Christian World*, February 20th, 1890.)

(*d*) 'I should like to see those of you who have a 'soldierly instinct, when of a qualifying age, join 'your county battalion, and show by your devotion 'to your Queen and country, that you are carrying out 'the precepts,' etc. (Colonel Hilton, quoted in the *North Cumberland Reformer*, June 2nd, 1894.)

(*e*) 'Very great national importance was to be 'attached to the Boys' Brigade movement. He had 'conducted such reviews in many parts of the country, 'and was much encouraged by the way in which boys 'were by this means adapting themselves to military 'training. He dwelt lovingly on the German military 'system, which he described to the boys in much 'detail, and by which every man in good health was 'liable to military service during a total period of 'forty-five years. In England (Britain?), he said, the 'system was different, and, being voluntary, depended

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'upon such organisations that he had reviewed that 'day.' (Article by Mr Maurice Gregory, *The Church and the War Office*, pp. 7–8.)

(3) Sometimes frank confession is made :—

(*a*) 'To him one of the good points in the Brigade 'was that it did encourage a military spirit.' (The Lord Provost of Edinburgh, quoted in *Our Boys' Brigades*, p. 19.)

(*b*) 'We are duly in receipt of your booklet con-'taining the Charter of the Knights of Peace, and 'consider that if its proposals were carried out the 'Empire would soon be not at peace, but in pieces. 'I am requested to inform you that it is always a 'point of honour with our Brigade lads that they 'should join either Volunteers or Regulars on leaving 'the Brigade, and we intend to do all we can to 'encourage the military spirit, and have no sympathy 'with your movement.' (Letter, quoted in *Christianity versus Militarism*, by Rev. W. Spriggs-Smith.)

(*c*) The *Boys' Brigade Gazette* speaks of 'the large 'proportion of the officers of the Brigade who count 'it an honour and a duty to serve their Queen and 'country in the Army and the Volunteers.' (Quoted in *Boy Soldiers*, p. 10.

(4) The step across has actually been taken :—

(*a*) Lord Wolesley once expressed the hope that they might have real guns that would go off instead of the sham guns they then possessed. But Mr Maurice Gregory describes an inspection at Hillingdon Court, last Whitsuntide, at which 'all boys strong enough to 'carry them were supplied with second-hand carbines '—Enfields, Martini-Henrys, etc.—weighing between '7 lbs. and 9 lbs. each, which the boys showed proudly, 'pointing out the Government marks on the guns.' (Article, *The Church and the War Office*, p. 5.)

(*b*) At Leeds an entire Company turned itself into a rifle brigade, with new drill hall, canteen, mess and store-rooms. Also a shooting range. (*Leeds Mercury*, November 26th, 1901, quoted in *Christianity versus Militarism*.)

(*c*) A company of the Natal Boys' Brigade went into active service at the siege of Kimberley, equipped with Lee-Metfords, bandoliers, bayonets, and blue uniforms. (Mr J. Reid, in *Dundee Courier*, May 22nd, 1902.)

s' Brigade : object fulfilled.

3. Whilst the militarising tendency is thus abundantly manifest, it is not so clear that the Brigades are more successful than other Christian organisations, or that they succeed better than they would do if they put the same earnestness into their work apart from the military element.

(*a*) It does not appear to have laid hold of the street boy—which was its original intention—but has become merely another part of ordinary church work. The arab and the Hooligan yet roam at large.

(*b*) Nor does it appear to have produced a higher type of boy. The *Daily Telegraph* (December 7th, 1897) gives an account of some Brigade lads 'at war' with one another—rioting very seriously. The *New York Republican* gives similar testimony of two companies who came into violent collision—the stronger driving the weaker company back into the church building with great violence and howling. Mr J. Forbes Moncrieff (*Our Boys' Brigades*, pp. 5–6) speaks of unseemly behaviour within doors at meetings. Our streets give evidence that the Brigade boys, if no worse, do not present a higher type of manners or morals than the rest of their class.

4. The religious motives of the Brigade movement are very strongly insisted on by its defenders, especially the verbal prominence it gives to the religious qualities of 'reverence' and 'obedience.' But—

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(1) In the military sphere these qualities are entirely different from the same qualities in the Christian sphere. In the first case they imply submission to the word of command, to the military regulations; in the second, submission to conscience and the moral law. The first process hypnotises the moral sense, whilst the second develops it. The first produces automata; the second, moral beings—men filled with a sense of responsibility, duty, freedom of will and choice, decision of character.

(2) The large numbers of desertions from the British army, and of suicides in the conscript armies of the Continent, do not favour the theory that military drill produces reverence and obedience in any ethical sense of the terms.

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(3) The attempt of the Church—as an institution whose appeal is purely ethical and spiritual—to adopt methods proper only to those who believe in brute force, must have disastrous effects upon the character of the young. For in the Bible class the boy is taught to love his enemies, but on the parade ground how to kill them—for it is impossible to separate drill from the purpose of drill, which is killing. In one place he is taught the virtues of gentleness, forgiveness, peace ; in the other, the necessity of violence, revenge, war. One part is given to Christ, the other to Cæsar. He is to hold the Golden Rule in one lobe of his brain, the 'Lex Talionis' in another. Thus two authorities —or rather one authority speaking with two different voices—both claiming to be absolute, and both absolutely contradictory, demand his allegiance. The result must be to create a schism in the youthful mind, ruinous to consistency and faith. By a process like this we can succeed in producing a race of either brutal cynics openly scoffing at the ethical and spiritual, or smooth Pharisees only pretending to believe in them. Whence I conclude that, without necessarily making the boys good soldiers, military Brigades must inevitably make them bad Christians.

Suggested improvements.

D.—I am invited to make suggestions as to the improvement of physical training in elementary schools and continuation classes.

1. Military drill and military instructors, as such, should have no place in our eductional institutions, as being foreign to their spirit and intention.

2. Physical training should be scientific and natural if we are to reap the greatest possible benefit. Such training alone produces the highest results in character —and it is through character we must get at physique.

(*a*) Mr A. Alexander thus sums up the 'moral and 'intellectual' results of good gymnastics : 'Health of 'body—cheerfulness of mind ; strengthening of body '—manliness of mind, strength and skill ; presence of 'mind—courage ; activity of body—activity of mind, 'acuteness of the senses, strength of the reasoning 'faculties.' (*Physical Drill of All Nations*, xv.)

(*b*) Mr Alexander also earnestly counsels the English (British ?) teacher 'to acquire every existing method 'taught in every country, and thus be in a position to 'discriminate and use their judgment in those methods 'which shall best give their pupils that good health, 'physical symmetry, strength and activity which has 'been so long our heritage.' (*Ibid.*, p. 153.)

Ordinary teachers *plus* experts.

(*c*) The regular school staff should be—unless in exceptional cases—qualified to give regular class instruction, just as in mental subjects. A trained gymnast should be attached to every school, whose duty it would be to thoroughly inspect every class not less than once a week, supplementing the class instruction as he had opportunity. His duties should include also the inspection of teachers. The Newcastle-on-Tyne School Board (of which I was a member for six years) employs such an instructor, who visits the schools once a fortnight, and supplements the work of the teachers. This is not often enough ; neither is the inspection of a school or class *en masse* thorough enough ; nor should it be the teacher who supplements the work of the instructor, but the other way. 'The instructor can 'then increase the number of his exercises, always 'keeping in mind that one set of muscles should not 'be worked upon for too long a period.' (Letter from Mr Goddard, June 2nd, 1902.) There is no reason, of course, why such instruction should not include marching—formation of companies, formation of fours, and other evolutions not essentially military—so far as they may give interest and variety to certain movements. But they are of little value in themselves, considered as gymnastics.

Physical training : divisions.

3. Scientific and natural training might be included under these four divisions :—

(*a*) Gymnastics and calisthenics.

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(*b*) Games which promote force of character, freedom of choice, strength of will, judgment, self-reliance, quickness of decision.

(*c*) The various industrial arts.

(*d*) Life-saving.

Gymnasium: boys and girls.

4. Every school should be equipped with a good gymnasium, just as indispensably as it is fitted with a classroom. With our present inadequate provision, boys and girls are frequently (as under the Newcastle Board) exercised together, which is in every way a mistake. 'Certain exercises good for boys are not 'adapted for girls' (letter from Mr Goddard). Yet even thus imperfectly given, the beneficial results of proper training are 'noticed in the fact that the 'children are kept healthy in body and smart in 'appearance. Their gait is improved, and their wits 'are sharpened for their other lessons' (Mr Goddard). All gymnasia should be equipped as thoroughly for girls as for boys.

Swimming-bath.

5. The swimming-bath ought to adjoin the gymnasium as inevitably as the gymnasium adjoins the classroom. If circumstances render it utterly impracticable, the managers of such school should be required to show reason for the omission.

Playground.

6. The site of every school should include a large garden, or field, planted with trees, shrubs, and the simple flowers. This would be available not only for nature-lessons, but for the outdoor sports, which are even better than gymnastics. Our cramped, concreted playgrounds are a mockery of childhood's pathetic yearning for the fields and flowers. Here also children would be made familiar with the use of the instruments of simple husbandry. The results of spade and hoe exercise would be enormous, and would impart new moral as well as physical vigour to the vitiated children in our cities. Powers to acquire land for public purposes of such vast import for our national well-being should not take long to acquire.

Handling of animals.

7. The suggestion in this paragraph could only be made effective in certain cases, but I think there are cases which render it extremely desirable and possible. Horse-and-dog exercise should follow naturally, and to as great an extent as possible, on the heels of spade-and-hoe exercise. Riding lessons are not necessarily implied, but that every boy and girl should be taught how to approach, how to handle, how to command, how to make docile and tractable the dog and the horse. Girls might be shown how to soothe a restive, and boys how to stop a runaway horse. In learning how to control and manage these servants of man, the youth of our country would gain a freshness, moral vigour, power of self-control, force of will, decision of character that cannot be computed. A very large number of boys, in town as well as country, are brought into contact with ponies, donkeys, and horses, whilst all boys and girls alike are in constant contact with dogs; yet how few there are who intelligently understand their wants, feelings, natures, or how to intelligently deal with them! Every day the streets of our cities furnish pitiable evidence of the result, both to the tempers of boys and men, and the happiness of the creatures entrusted to their care—the result of a system of education that totally ignores the splendid opportunities of human culture involved in a knowledge of the ways of the animal friends of man.

Manual instruction: workshops.

8. Alongside the classroom, the gymnasium, the swimming-bath, should be built the workshop. The value of manual instruction, considered as physical training, has not been sufficiently appreciated. It is a mistake to regard it as 'technical' instruction, though even in this limited aspect it has been entirely scouted by some Boards, and inadequately provided by the best. In the school my own boys attend, there is no provision whatever for manual instruction; and I am compelled to provide work-bench, tools and skilled instructor at home. But this is not in the power of many parents, and should have an honourable place in all schools, as physical training. It is, in truth, one of the most wholesome forms of physical training. In the school workshop, as carefully ventilated and heated as the classroom, provided with benches, lathes, seats, and every variety of necessary tools, taught by skilled instructors in wood, iron, tin, wire, and other materials, the scholars would be trained in handicraft, dexterity, eye-measurement, hand-sleight, thoughtfulness, patience, perseverance. Employed in close conjunction with science and art classes, it would constitute a perfect union of the theoretical and the practical. Mr Alfred Goddard, one of the most experienced educationists in the country, thus describes the possibilities of manual training: 'The chief points to be borne in mind in this 'subject are the training of the brain, the eye, and the 'hand, in their natural order, acting in conjunction 'with muscular development, so that in this way all 'parts of the body are brought into play. In physical 'drill, after the children have been taught the first 'movement, there is a tendency for the drill to become 'mechanical. This cannot occur in manual training, 'inasmuch as the brain must be always on the alert in 'order to produce the best results. Therefore, the 'muscles are being developed by the force required to 'drive the tools, and in this the brain is working harmoniously with the muscles. In order that satisfactory work may be obtained, models are so arranged 'that interest is kept up without unduly wearying the 'children, or causing them to work too long on the 'same set of muscles. Another important point is the 'dignity this subject gives to manual labour, owing to 'its being introduced as a school subject. The general 'outcome of the work is brighter pupils, more intelligent work, and a better understanding of the value 'of things.'—(Letter, June 2nd, 1902.) 'Perhaps it is 'unnecessary to add that both these subjects are very 'popular with the day school scholars' (*ibid.*). Not only is there a great love for this kind of training on the part of the children, but a great demand for it amongst parents. The Dundee Trades Council, whilst strenuously objecting to the introduction of military drill into the schools, earnestly called for 'further development of manual training, as being more valuable 'to labour and to the commonwealth.'—(*Dundee Advertiser*, May 15th, 1902.)

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Swimmin...

9. Grants should, of course, be made for efficiency in all these subjects, for evening continuation schools as well as day schools. The Education Department has taken a step in the right direction by allowing instruction in swimming at public baths to be counted as school attendance.

Life-savin...

10. Exercises in life-saving would form a valuable and most interesting adjunct to any scheme of physical training. In connection with the gymnasium, it is easy to see how exercises in fire-extinguishing, or fire-rescue, might be introduced. I believe that in Manchester a boys' fire brigade already exists. The swimming-bath would afford opportunities for life-saving from water, and for resuscitation drill. Rescue and release drill could be arranged which would be invaluable to those who were to be the builders, miners, railway men, horse-drivers of the future. Rocket brigades would be immensely popular to young dwellers by the sea. Ambulance drill suggests itself as a matter of course.

11. Distinction boards should hang on the walls of every school, blazoned with the names of those who had actually saved, or bravely attempted to save, life from fire, water, railway, vehicle, runaway horse, or accident and danger of any kind. This would help to correct the frequently meretricious teaching of the history books—showing who were the true benefactors of their kind. It would hold up a higher type of heroism—showing that it was nobler to save life than to destroy. It would show true heroism to be something more than a strong and agile human body—that it might be exhibited by those to whom strength and agility had been denied.

Boys' life brigade.

12. A boys' life brigade actually exists on those very lines, and with those very objects in view. It is affiliated with the Sunday School Union, and has branches in various parts of the country. It is founded on a broad basis, and with means of complete national machinery. It issues manuals of instruction,

and is organised so as to make possible the earning of the Government Grant. The Education Department could not do better for the youth of the country than to foster, in the continuation classes, such societies and such training.

13. It is, of course, in evening and continuation classes that measures like these can alone be fully adopted; and it is precisely here that the best results may be obtained. 'Provided the pupils are healthy, 'those between fourteen and eighteen years of age may 'be given any amount of work to do. Mr Blackham 'thinks between these ages is the best time for 'development.'—(Mr Goddard.) With our parsimonious and perfunctory system, or want of system, in vogue so far, we get but slight results. 'The general 'experience seems to indicate that unless there is 'gymnastic apparatus, the interest drops. The drill, 'to be of any use, should be taken *con amore*—not as 'a task. The difficulty in evening school work is to 'maintain discipline, the attendance of the pupils 'being purely voluntary.'—(Mr Goddard.)

14. It is precisely amongst the youths and maidens of these evening continuation classes—too jaded and tired to care for mere mentalities—that a large and generous scheme of humane culture would tell. It would fill their lives with interest and brightness, and give 'school' a new and delightful meaning in their ears. Round educational institutions so generously motived and equipped, the interests of the youth of a district would naturally revolve. Round them would be grouped athletic clubs, games, and sports, of an educational nature. The presence, on special occasions, of instrumental bands, trained also as part of the scheme, would impart fresh interest and zest to the whole.

15. Summer camps would also grow out of such continuation work, from which every branch of the work would derive new stimulus; for it would have its sports, its athletics, its spade-and-hoe exercise, its horse-and-dog exercise, its music—all under new and delightful conditions. Every school should be a miniature Chautauqua.

1. Our choice is between the military and the humane ideas of education, and my rough suggestions do, at any rate, point the better way. We can successfully attack the physical only through the ethical. Improvement in national physique is strictly conditioned by growth in national morals. The quality of the mind determines the state of the muscle.

2. For this reason, I suggest, in conclusion, that after we have adopted these or similar schemes, and the other and better schemes that will then come into view, we shall still find ourselves thwarted of the goal unless we go to the root of the matter; unless we straightway demolish the drinkshop—which exists to destroy national character; and proceed to erect homes for our people—which are the true nurseries of character.

7510. *By Sir Henry Craik.*—You say in your evidence, 'The "Terms of Reference" upon which this 'very Commission is conducting its inquiry is being con-'strued into a mandate for the formulation of some 'scheme of military training.' Do you agree with that construction?—My impression is that it includes that construction.

7511. That the construction is justified?—No, I think not.

7512. You think that the construction has been an error?—I think it has been a gross exaggeration.

7513. Are there any words in the 'Terms of Refer-'ence' which you would think justified such a construction?—No, not in the 'Terms of Reference.'

7514. In the next column you say, 'Lord Balfour of 'Burleigh's Memorandum to Scottish Boards on Physi-'cal Training, February 1900, has led to the formation 'of numerous cadet corps.' You are aware that the Memorandum did suggest the formation of these corps?—Yes.

7515. So that it naturally led to the formation of them?—Yes.

7516. In that respect the Memorandum, of course, has been acted upon in accordance with its words?—Yes.

7517. *By Mr Alston.*—You are minister of an Independent Church in Dundee?—Yes, sir.

7518. Successor to the Rev. David Macrae, I think?—Yes.

7519. How many churches are there in Dundee, would you say?—Roughly guessed, seventy or eighty.

7520. What would you say was the church membership of Dundee apart from your own?—I know that at the last census 20 per cent. of the population only attended church. I cannot say what the church membership actually is.

7521. Well, I suppose 30,000 or 40,000 would not be far out,—30,000. Be that as it may, what is the number of your own membership?—800.

7522. Would you say that they were representative of Dundee church-going population?—Hardly.

7523. Do they take the same view upon all these matters referred to in your evidence as you do yourself?—I have never asked them, of course; I fancy some do not; I daresay they have their individual opinions.

7524. You will not be offended at my stating that we have before us the account of your sermon the other day?—Of course I do not commit my congregation in any way.

7525. They seemed to approve, however, by cheers, of your views, particularly those about the Boys' Brigade?—Yes, I think the majority do approve.

7526. *By the Chairman.*—So far as you are able to say?—I am sure if the question is regarding my own congregation, I am perfectly certain the majority do approve.

7527. *By Mr Alston.*—I gathered so from their cheering the statements you made; I need say nothing about the sermon itself. Are you a member of the Peace Society?—Yes, sir.

7528. What is the exact tenet of that Society?—I cannot tell you in a sentence, off-hand.

7529. What is the precise view it holds?—I cannot give you its constitution.

Peace Society objects.

7530. Being called the Peace Society, it must have some particular tenet upon which it is founded. Does it object to all war, all military training of soldiers and sailors in defence of country?—I believe the object of the Peace Society is to substitute arbitration for war in all national disputes; but of course, like other societies, there are personal differences in its ranks. For example, one Vice-President of the Peace Society is the Rev. Hugh Price Hughes. I mention that merely to show that there are great differences.

7531. But is it not the case that we are all members of the Peace Society inasmuch as we desire peace?—Some may, perhaps.

7532. As one of the greatest blessings we can have?—I would not say that all, sir, were entitled to be called members of the Peace Society.

7533. In the sense of desiring this greatest blessing of peace?—I think some more than others.

7534. We do not all take the same method of enforcing our views. What I wanted to be at is this: As a member of the Peace Society, does that tincture all the views you have expressed about military training?—No, sir. I am a member of the Peace Society because I hold these views; I do not hold these views because I am a member of the Peace Society.

7535. You make the distinction?—Clearly and strongly.

Military training: meaning.

7536. But you have made some very strong statements here against all military training. Then what is military drill in the sense in which you understand it?—Teaching the use of deadly weapons.

7537. Then, of course, that cuts us off from all defence of country?—Ultimately it will, because there will be no necessity for defending the country.

7538. I mean now; we will get at that condition through another channel, but just now?—Well, I am prepared to take the risks as a citizen.

7539. So that you really take very strong ground when you give evidence like this against all military training?—Yes.

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7540. And we must value your evidence on the ground that you take?—Still my evidence must be taken, sir, I think, as it is given rather. I am quite willing to state my own personal views, but I am trying to give views which, I think, are of public efficacy.

7541. We quite appreciate a large part of this evidence as a desire to show the best methods of training the youth of the country; but military drill does not necessarily imply the use of deadly weapons. Policemen get military drill, firemen get military drill, and other bodies get military drill, that is to say, military drill in the sense of carrying out evolutions, in large or small bodies, going through various movements for the attainment of one object, namely, unity of action; that is military drill?—Is the witness entitled to ask questions, sir?

7542. *By the Chairman.*—Well, I prefer that he should suggest them by his answers.

Boys' Brigade.

7543. *By Mr Alston.*—I put the question in reference to your evidence: 'At Leeds an entire brigade,' etc. I presume, first of all, in speaking of the Boys' Brigades you refer to the companies of the Boys' Brigade?—I mean all associations of boys in connection with churches.

7544. In Scotland?—And England; all associations of boys that include military training in connection with churches.

7545. To be technically correct, the Boys' Brigade is one body; its companies are units. When you speak of Boys' Brigades in Dundee or elsewhere, you mean companies of the Boys' Brigade,—you understand?—I am afraid, sir, I do not quite understand.

7546. Then do you know sufficiently about the Boys' Brigade?—Yes, sir; I know a good deal about it.

7547. It is an organisation that has a great many companies attached to various churches?—Yes.

7548. Well, speaking of the companies of the Boys' Brigade, I find you say:—'At Leeds an entire brigade'—which, I presume, means a company—'turned itself 'into a rifle brigade,' which, I presume, means a rifle company. Can you tell me anything about that company?—I can produce you the paragraph from *The Leeds Mercury*, and read it to you.

7549. Is any name given as the captain of that company?—No, not in the paragraph.

7550. No mention of the church to which it was attached. If it does not give that, I cannot make any point of it. Have you any exact knowledge of the Boys' Brigade; its principles and its methods?—Yes, sir; I have read the manual, and I have talked with many of its leaders and defenders, and conducted a newspaper controversy on the subject.

7551. Then do you know, as a fact, that the testimonies in favour of the Boys' Brigade, and its results on the religious, moral, mental, and physical conditions of the boys, are numerous and emphatic from clergymen of all denominations all over the United Kingdom?—Yes, sir; I have seen many testimonies like that.

7552. And you disagree with them all?—I think that they are overstated; I think that they desire to read into them a success that is not justified by statistics.

7553. Do you know that those testimonies are given by clergymen in relation to what is going on in their own schools and churches,—the good that the Boys' Brigade company is effecting,—and they do not put pen to paper to give an exaggeration. They are so numerous that really it is not worth enlarging?—They are numerous; one always reads them, but I take leave to think that their opinions are coloured by their prepossessions, and that they see a value in the institutions and in the work done which others looking at them impartially may not see.

7554. And with due knowledge?—Yes.

7555. Of the movement, and what it does?—Yes; I think so.

7556. Do you prefer to believe what the newspapers say and these other writers you quote here?—The newspapers are all in favour of the Boys' Brigade, so far as I have read them.

7557. Yes, but you quote them against it?—I quote certain items of news which the newspapers report.

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7558. 'The press constantly describes them as '"embryo warriors."'—that, of course, is against the movement, and a misstatement of what the movement is?—I am quite sure the man who wrote it thought he was paying them a compliment.

7559. Further down you quote a Mr Robertson in *The Christian World*,—what Mr Robertson?—I do not know; I cannot tell you.

7560. You do not know the value of his statement?—No.

7561. Then you refer also to 'a company of the 'Natal Boys' Brigade'; where did you get that fact?—In the correspondence letter, Mr J. Reid, in the *Dundee Courier*, May 22nd of this year.

7562. And he called it a company of the Boys' Brigade?—Yes.

7563. That practically went to war?—Yes.

7564. How can that be when the boys are between twelve and seventeen?—Boys of seventeen might have gone.

7565. No; they must be between twelve and seventeen; and boys of seventeen must leave the brigade. There is some mistake there, you see?—I give the name of the correspondent and his address. He was not contradicted in the newspaper by those he was writing about, and against whom he was writing.

7566. That is the worst of a newspaper paragraph; so many of them talk so much nonsense we really cannot attach much importance to it. There are a good many other points in your evidence. I gather you are, generally speaking, so strongly against all military training that you would not allow it to be introduced in any of the Board Schools in any shape whatever?—No, sir. In the sense in which you said that policemen, and firemen, and others had military training, I have no objection to it in Board Schools.

Military training: no objectio to certain forms.

7567. That is military training?—If firemen are being trained, call it what you like.

7568. It is better exemplified in the police. We know that they are trained in military formations, with the object of obtaining the greatest amount of force and effect by union of movement and effective defence against a riotous population, as the case may be. You seem, however, to have thought that the military drill involved the use of deadly weapons?—I still think it does, sir; and that military drill is not a term properly applied to anything that does not include the use of weapons whose purpose is to kill.

Deadly weapons.

7569. Would you say that the model gun of the Boys' Brigade is a deadly weapon?—No, it is not intended to kill, but it is intended to teach the use of another deadly weapon which is intended to kill.

7570. Is it not possible that it is entirely used to put the necessary finish to the drill, the necessary finish to one of the exercises incident to military drill, namely, the manual exercise?—It might conceivably be so.

7571. But it actually is so. If this Leeds company, to which you refer, is the company that I think is indicated, it was struck off the strength of the Boys' Brigade because the officer commanding chose to use a rifle that could be discharged. You see there is a distinct line drawn there; that is why I wanted to be particular about your ideas of military drill?—But, sir, we have distinct evidence of children being armed with Martini-Henrys and Lee-Metfords that have been cast aside by the Service.

7572. But who are these children who are so armed?—Boys' Brigade.

7573. Perhaps you do not know that it is a regulation of the Boys' Brigade that no company shall have a weapon that is capable of being discharged?—They have been discharged in previous days.

7574. They are rendered incapable of being discharged?—I daresay.

7575. It is a very important distinction?—I cannot see the distinction.

7576. Your answer was based upon the use of deadly weapons by children; the instruction in the use of

deadly weapons?—The instruction in the use of deadly weapons; it is that I object to. I say, if you use a broomstick, giving sword or bayonet exercise with the broomstick, it constitutes exercise the end of which is killing.

7577. So that all these exercises, valuable in the opinion of so many, are cut off by you entirely?—I dispute the value of the exercises, sir, considered as scientific training.

7578. The evidence before us has been very considerable as to the value?—I do in my evidence say I favour marching of various kinds to give variety to gymnastic exercises, though they are not of much value as gymnastics.

7579. I do not think I need pursue this branch of the subject, but I wanted to bring out these points in case you should be under a misapprehension as to what this Boys' Brigade is and what it does, and I am afraid you are?—I am afraid I shall have to remain, because I have studied all the facts.

7580. I happen to be President of the whole movement, so I ought to know something about it, and I think it is a pity you should be under a misapprehension.

7581. *By Mr Fergusson.*—I think you said, in answer to Sir Henry Craik, that you did not agree that the Terms of the Reference to us had anything to do with military training?—Not necessarily.

7582. The object of physical training is to make men physically fit, is it not?—Certainly.

7583. That is the idea, and of that you quite approve?—Certainly.

7584. *The Hon. Thomas Cochrane.*—There are one or two questions I should rather like to bring out. I read your evidence, though I had not the opportunity of hearing you read it yourself. Are those your views as to the effects of physical training set out in section D of your evidence?—Yes.

7585. I think you have a very high opinion of the advantages of certain kinds of physical training?—I have.

7586. And you set them out generally in this article of yours?—Yes—too thoroughly, I know, to be adopted for a long time.

7587. A very thorough system that you advocate of physical training for children?—Yes.

7588. You have seen the benefits of it morally and physically: do you hope that by some system of physical training the better qualities of all children would be developed?—Yes.

7589. If scientifically carried out. You suggest that the teachers could acquire every existing method taught in every country, and thus be in a position to discriminate and use their judgment in those methods which shall best give their pupils that good health, physical symmetry, strength and activity which has been so long our heritage?—Yes.

7590. Have you inquired into any of those special systems that you advocate?—Long ago, when I was on the Newcastle-on-Tyne Board, I made a complete study of this book, which, I think, is the standard book on the subject—Mr Alexander's, the Liverpool Gymnasium.

7591. Have you made yourself familiar with, for instance, Cruden's system—Col. Cruden, of Aberdeen?—No, I have not. I am not a gymnast myself; I have only a book knowledge of the thing.

7592. Professor Sandow: have you heard his name in connection with physical exercise?—Oh, yes.

7593. Do you think his is a good system?—I would not like to say.

7594. And on the whole, you favour marching as a physical exercise?—I favour it merely as giving variety and interest to exercises which are in themselves valuable. I think the evidence of experts is that marching is not much use really as a physical development.

7595. You think it has certain advantages in the way of discipline and regularity?—Yes, I think so.

7596. The formation of fours and so on?—Yes.

7597. It all tends to the harmonious working of the school?—And there are other evolutions, which could not properly be called military, to which the same thing applies.

7598. It all helps and aids the discipline of the school?—Such as the maypole dance in infant schools, and things of that sort.

7599. Or trained effort?—Yes.

Forms of exercise approved.

7600. Then you go on, I think, and give various other forms of exercise that you think would be good, and you consider that the beneficial results of the proper training are 'noticed in the fact that the children are 'kept healthy in body and smart in appearance'?—Yes.

7601. And you approve of swimming?—Very strongly.

7602. And outdoor sports and gymnastics?—Very strongly indeed.

7603. And you even go so far as to think that riding is an advantage?—I do not think riding lessons are practicable, but I do think that some teaching in the management of approaching a horse, the handling of horses, would be of immense moral as well as physical advantage to certain classes of children.

7604. And you go further, I think, and you consider that outdoor exercises are also very advantageous?—I think, on the whole, if properly conducted, they are the best kind of physical discipline for children.

7605. Including summer camps?—Yes, under proper supervision, to see that they do not merely loaf, but do take training in the open air.

Military training: objections explained.

7606. But then you stop short in all these at what you call military training. I heard some of the questions that were put to you; I failed to understand what the stumbling-block was?—Well, I will try and make it more clear if I can. I am in favour of all kinds of physical drill that is in itself physiological—in harmony with the laws, I mean, of physiology, and that conduces to the upbuilding of the physique and morale of the person who engages in that drill, and that has for its object, therefore, the strengthening of the body politic and the helping of others; but when training is directed towards destroying the most sacred object, that is, human life, when it is directed towards that, and when it includes the use of deadly weapons, that is, it includes killing as its purpose, I draw the line at that.

7607. You are in favour of such physical training as, in the words of our Reference, would 'contribute to-'wards the sources of national strength'?—Absolutely; I would train the boys to be men, and let the army manage its own business afterwards, as it could. I do not think the school or the church is the place to train soldiers.

7608. But the physical training that would make the citizens better able to contribute towards the sources of national strength, if the same training would also fit them to defend their country, you would not condemn the training on that ground?—Certainly not; it is reasonable to conclude that a nation of physically strong men would, if they went to war, be in a better position to wage war than a nation of weaklings. That is evident, but I hold it is no part of the business of a school to train soldiers.

Militarism and school training.

7609. Yes, I think I understand your point quite clearly?—And I wish to be distinctly understood, sir, that I am not here discussing the question of militarism so far as it belongs to the Army, or the Volunteers, or any regular or irregular force; I am discussing militarism in so far as it may be promoted by school training.

7610. I think that you have taken a strong view on that point, and I think you at various times have given expression to it, especially I think in a sermon that you delivered in Dundee?—It was not the only one, only it happened to be reported more than some others.

7611. And there you took rather a strong view, that you thought the child had been delivered into the hands of soldiers?—I think, wherever school children are being, or if ever they should be, trained specifically for the purpose of afterwards feeding the army, they are being betrayed into the hands of the soldier; I think so still.

7612. What had you in your mind at the moment you said that the child was being delivered into the

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hands of soldiers; had you anything special in your mind?—Yes, I referred specifically to the deliverance of the Dundee School Board.

Dundee School Board deliverance.

7613. The deliverance of the Dundee School Board, I see?—Some of which I have quoted here.

7614. Not to the appointment of this Commission, for example?—I never referred to it, not the slightest reference; absolutely to the speech of the Chairman of the Dundee School Board and Mr G. K. Smith of the same Board.

7615. They would have only influence in Dundee, I presume; their utterances would not have any unusual weight with the rest of the country?—I would not like to suggest not.

7616. But they do not lay down the policy of the country?—Oh, no; I am afraid none of us do that.

7617. The awful declaration that you made that the children of the country are being betrayed out of the hands of the Prince of Peace into the hands of the Man of War was perhaps stronger than was warranted by the fact that the authority for this statement was merely a member of the Dundee School Board?—Well, that may be so—it may have been. Of course, I felt strongly the speeches made on that occasion by the members of the Dundee School Board; I felt very strongly, and I had not at that time seen your remit, quite possibly, for I never mentioned the remit in any shape or form, or this Commission in any way whatever; it is perfectly likely that I thought the Chairman was justified in his interpretation of it.

7618. And, in fact, now that you understand the remit of the Commission, you are not alarmed as to the militarism that was to be taught in the schools?—So far as anything that has occurred at this table is concerned I am not alarmed, but the utterances of military men that I have quoted, and which influence all classes of the community, do still fill me with some fear.

7619. You are very much alarmed at all militarism I think: you do not like militarism?—I do not.

7620. In any shape or form?—I do not.

7621. You rather consider that a military training as you say, 'by this process we can succeed in producing a race of either brutal cynics openly scoffing at the 'ethical and spiritual, or smooth Pharisees, only pretending to believe in them'?—You see I bring that in, sir, in my reference specially to Boys' Brigades. It is the attempt of the Church to teach the New Testament on the one hand and the art of destruction on the other, as I hold it to be. That attempt is teaching the child absolutely contradictory laws, which will make them either cynics or Pharisees, according as they obey one or other of them. That is my idea in the paragraph.

Soldiers and Christians.

7622. You do not think that a soldier can at the same time be a good Christian?—I would not like to state any opinion whatever upon that question, because the question that I am discussing in the evidence, and that I am referring to absolutely in this, is the idea of the Church, which exists for ethical and spiritual purposes, the idea of the Church, even to the limited extent of Boys' Brigades, undertaking to teach the art of violence. That I hold to be giving the children a dual code of ethics, which at their early age must injuriously affect their whole moral nature. They do not know which authority to obey.

7623. You do believe that occasionally soldiers are excellent Christians?—In so far as they are not soldiers I am sure they are, but I do not think the act of killing a man is a Christian act.

7624. You have heard of General Gordon, for example?—Yes; I think General Gordon was an absolutely Christian man, but I think when he killed another or commanded others to kill he was doing an unchristian act.

7625. You are opposed to war in any shape or form?—I should say I think he was inconsistent, as we all are more or less.

7626. And this leads you to fear that in one of your statements I have read, that the children of this country might become like the Russians who, upon one occasion that you instanced, made war indiscriminately upon women and children?—The glory of that was that they refused to do it: they preferred to be shot.

7627. The soldiers refused to do it?—Yes, they refused to do it.

7628. That is perhaps an argument in favour of soldiers?—No, that was only a very small number, five hundred, unfortunately.

7629. But you would be strongly against going to war with women and children, I am sure?—I should hope so.

7630. And supposing the Russians came over here and made war upon our women and children, you would be in favour of the inhabitants being trained up so that they could defend those women and children?—I think if we behave properly they are not likely to come.

7631. That is matter of opinion; but suppose they did come, you would be in favour of every citizen being able, physically fitted, to take his part in defending the women and children of his own country against such an enemy as that?—I am afraid that the question leads far afield.

7632. There are two more questions: You fear that the use and familiarity with weapons of destruction would lead to a great increase in the number of homicidal accidents or crimes. Have you any cause for that fear?—No, except that one reads frequently of accidents at farm places where fowling-pieces are left standing about, and country boys get hold of them.

7633. You speak more of homicidal accidents?—Well, it is the killing; I do not mean murders, I mean homicide, accidental or culpable.

7634. Accidental?—But I include both; I say accidental or culpable, do I not?

7635. 'It is reasonable to infer that the increased use 'of, and familiarity with weapons of destruction must lead 'to a grave increase in the number of homicidal accidents or crimes, and thus foster a lawless and criminal 'spirit in the community'?—Yes, well I think it does; I think you see that farm boys frequently take up a fowling-piece and level it at their sister, or something about that, occasionally you read about that.

7636. Is not that rather the want of familiarity with weapons than the familiarity with them. You do not find soldiers and tradespeople committing these crimes as a rule, or having these accidents?—There is something in what you say.

7637. A little knowledge is a dangerous thing?—But then there will always be a very large proportion of imperfectly learned people in that sense grouped round every weapon.

7638. But you do not mean to imply that soldiers and those acquainted with rifles are necessarily of a homicidal tendency?—Oh no, I do not imply that at all.

7639. Then there is a paragraph in which you are speaking of the Lads' Brigade, and quoting Lord Wolseley:—'Your corps seem to have two great aims 'in view—first, to imbue their minds with real childlike 'faith in God; second, to drill their bodies in those 'military exercises that will enable them, as men, to 'defend our country against the attacks of all enemies.' I think you find some fault with that statement?—Yes.

7640. Which appears to me to be a very noble ideal and a very splendid statement?—I cannot agree with that view.

7641. *By the Chairman.*—I should just like to ask: You say you have been in Newcastle and in Dundee?—Yes.

7642. Have you been anywhere else, so as to have a knowledge of other classes of people—all kinds of people?—I lived four years in Pitlochry, a country district.

7643. And have you been abroad?—I have been in Canada and America and in Holland.

7644. And now that you are at home, are you pretty well confined by your work to Dundee, or do you go about; have you an opportunity of going about?—I have not gone about so much since I have been in Dundee as I did in Newcastle. I have been very much confined in my work.

7645. I rather wanted to ask you that on account of knowing whether you had any knowledge of public feeling as against physical training. I am bound to tell you that we rather hoped to hear from you a good deal more opposition to the matter of our remit than we have had the pleasure of doing, because you have rather come here like Balaam: you have not only suggested the same very proper suggestions that have been made by a great many other witnesses, but in some cases you have gone far beyond them, and thereby helped us. I do not say that they are all quite practicable?—Oh no, no.

7646. Because there is a deal of expense?—Yes.

7647. But I mean—have you, in your acquaintance with other people, met anyone who seriously objects to physical exercises; have you ever heard parents or anyone else object to their children being given anything to do in schools which was not exactly book work?—Never; oh, never.

7648. Nor in the country?—No.

7649. If we wished to find some such witness, you could not help us to?—No, I could not.

7650. And you do not think that there is, because I think there was opposition some years ago?—I do not know of any; I never heard it. When I was in Newcastle, I was on the Board. I mixed very much with the parents of the children in the school. I never heard it; on the contrary, I heard numerous grumblings that there was not more physical training.

7651. On the ground of health?—On the ground of health.

7652. And on the ground of development?—And on the ground that the children were getting too much book learning and too little of the other. I heard that frequently, and I heard it in Dundee. I never heard the other.

7653. Thank you; it is very interesting to know that, because we had had a certain amount of evidence—a little—just to say that there was occasionally a spirit of opposition, but very little, and you fully back that up?—Absolutely. I do not know a case.

7654. *By Mr Shaw Stewart.*—May I put one question supplemental to that: Are you in favour of a considerable increase of physical training in our Board Schools in Scotland, quite apart from military drill?—Yes, sir; I do not think an hour a day would be too much to give to some form, varied on different occasions day by day, different exercises. I do not think an hour a day would be too much to give to all classes of the children, from the play of the infants' room up to the serious gymnastics of the seventh standard.

7655. *By Mr Fergusson.*—Do you think that some of the erroneous opinions that have been formed as to the object of this training is because of the term 'military drill.' What we have been talking of here is really drill adapted to teach children discipline, and might be more appropriately called school drill, and might not be so liable to be misunderstood. Is it the term 'military drill' that offends some people?—Obviously the term 'military' would make persons who in any way agree with me fear as to what it implied; but if the thing actually did not include training for the ultimate purpose of killing, there would be no harm in it.

7656. Yes; but as Mr Alston pointed out, it is just the same drill that is taught to policemen and many other people who are not being taught to kill; it is drill for the purpose of discipline and exercise?—There is nothing in this book (Alexander's) from board to board that could be in the most remote sense suspected of teaching to kill.

7657. Quite so. Now, as to boys after they have left the elementary school, after the age of fourteen, I suppose you have got a lot of them in Dundee who have gone into trades?—Yes, we have.

Continuation Classes for girls and boys; development necessary.

7658. Do you think it would be desirable to continue any physical exercises for these boys? We are told that the good effects are very much lost if you drop them at the age of thirteen or fourteen, and that it would be very desirable to continue physical training and particularly the gymnastic part of it after the age of fourteen. Now what do you say to that?—I agree to it entirely. I think that when we see how the boys and girls,—pray sir, do not let us forget the girls——

7659. When we say boys, I think we all include girls?—In a city like Dundee, where we have a preponderance of females in the factory life, and we see how the girls wander aimlessly up and down our streets in the evenings as well as the boys, I wish, sir, to be most emphatic that any scheme must contemplate the girls equally with the boys, and I am in favour of any scheme that will develop the physique and the morale of those boys and girls; and I think that it should be something in the nature of what is commonly called recreative evening classes, but on a large and a much better type than the sort of—I do not know how to describe it—the recreative classes they have at present.

7660. You are not satisfied with the present?—No; I think very often they are the poorest teachers—there is no staff, there is no apparatus, there is nothing. I think the recreative evening movement has fallen into discredit—I am very sorry that it should—owing to that.

7661. You would like to see physical exercises—gymnastics—made a feature, a special feature?—I should, yes.

7662. Now would you be prepared to make that compulsory?—Upon——

Physical exercise for those from fourteen to eighteen: attractions desired not compulsion.

7663. Let us say from fourteen to seventeen or eighteen?—If we were delivered from the fear of——

7664. Militarism?—From the bogey that always comes up? If we were delivered from that, I should be inclined to do it, though I do not quite like compulsion even with boys and girls getting to be fourteen; I would much rather, if we could, find some other way.

7665. Do you not think you would miss the class for which it would be most useful unless there is some compulsion?—There is a danger there; but, on the other hand, I think if at that age we go in for too much compulsion, we are likely to lessen the development of their own will and their own moral choice; I think there is a danger there.

7666. It would be at the most perhaps an hour twice a week, something of that sort; it would not be a very large call on their time?—I think you would probably find you would have a great many evasions of an untruthful nature if you made it absolutely compulsory, and that the moral results would not be satisfactory, but I would make them attractive, by appointing the most skilled teachers, and the best plant, and the best kind of rooms—make them attractive in every way, and give prizes for attendance. I think that in that way, and especially if we could—as this Boys' Life Brigade is doing in connection with the Sunday School Union—direct the exercises towards some specific and interesting end, such as life saving—if it could be done, I am quite sure you would have very successful evening classes.

The witness withdrew.

Adjourned.

FIFTEENTH DAY.

Wednesday, 11th June 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Rev. H. Williamson.

11 June '02.

The Rev. HENRY WILLIAMSON, examined.

7667. You are a Unitarian Minister in Dundee?—Yes, my lord.

7668. And a member of the School Board of Dundee?—I am.

7669. For how long have you been a member?—I have been a member for eleven years.

Board schools Dundee.

7670. Will you please go through your notes?—The School Board of Dundee has encouraged the physical training of children of all ages in every possible way. In every school under the Board, I believe, systematic exercises are given, which must be of the greatest benefit to the scholars. The children appear to enjoy the various exercises. It has sometimes occurred to me that in some cases the exercises may have been too exhausting for weak constitutions. No complaint has been made. It is probable the teachers are quite alive to the necessity of care in this respect.

Liff Road School.

There are varieties in the forms of physical training in different schools. Probably the course followed in one school is a fair representation of others. For instance, Liff Road School:—

The ex-VI. boys are trained to use Indian clubs.
Standard VI.—Boys and girls have free gymnastics.
Standard V.—Boys, Indian clubs; girls, bar-bell.
Standard IV.—Boys and girls, dumb-bell exercises.
Standards I., II., and III.—Free gymnastics, dumb-bell drill, tambourine.
Infants, similar exercises.

All scholars march in and out of the school to music. Each class takes its line in the playground. An addition desired is a fully-equipped gymnasium. The good effects of the training are apparent. One teacher has expressed the opinion that a system of physical training proceeding by proper steps would be of immense advantage, as individual assistant teachers do not always conform to a regular course. It is probable the teachers would be disposed to give more attention to physical exercises if they received the necessary encouragement. In common with many people in Dundee, I was very much surprised to learn, when the proposal was made that a portion of the school children should take part in a procession on the occasion of the coming Coronation celebration, that the teachers declared their inability to manage their children for a public procession. It appears to me that there is room for more being done in the way of influencing and helping the children outside of the schoolroom in the direction of physical training.

Continuation Classes.

Continuation Schools.—I am specially interested in continuation classes for elementary instruction. Hitherto the majority of children have left the day-school on reaching the age of thirteen, and obtaining the labour certificate. Special effort should be made to reach all of these. I have seen excellent results from teaching physical exercises to girls in the continuation schools. One head-mistress of a girls' continuation school attributes her success in keeping hold of her scholars to the drill. I am not aware of a similar effort for boys having been made. For a long time I have given much attention to the young girls engaged in an important department of the jute industry. From the conditions of their employment, many of the girls become rough in their conduct, indifferent to the claims of refinement, and present appearances to the observer of their moral and social condition suggestive of terrible evils. It is a startling fact that only a short time ago they were all in our day schools. I have tried to arouse the interest of the School Board in an effort to reach these neglected girls by means of special continuation classes, and have succeeded in opening two schools during the winter months. Although physical exercises have been attempted, the girls have not taken to them, owing, perhaps, to the exercises being such as are offered to children in the ordinary school. I have the hope that a system of physical training adapted for such girls would prove an attraction to the class I am most anxious to influence. They are not requiring severe muscular exercise. They need a well-directed discipline under a refined and educated woman to give them the self-respect so little thought of in their daily work. Allied to the continuation classes, a mill girls' club has been instituted by a number of ladies in Lochee. I am of the opinion that it would be possible to introduce gymnastics and swimming. The superintendent of the Dundee Public Baths is most enthusiastic in his efforts to popularise the facilities for cleanliness and healthful exercise he has under his control. There seems to be a reasonable ground for hope that good would result from the introduction of physical exercises into the boys' continuation schools. The work in the mills appears to keep back physical development, smallness of stature being almost a recommendation where space is limited. The Town Council has provided public playgrounds and also an open-air gymnasium for children under fourteen. The keeper informs me that he has often to refuse the privilege of the apparatus to boys and girls over the age. It is obvious provision should be made under proper conditions for all who are likely to be benefited. With reference to the Boys' Brigade movement I have no direct knowledge. The neglected boys, I am afraid, would not submit to the discipline at the beginning, though they might be influenced by a well-regulated scheme. I find no disposition in Dundee on the part of any public body to initiate any effort to deal with the children and young persons under no proper parental or other control. Probably a recommendation from the Royal Commission may arouse local interest and activity.

7671. *By Sir Henry Craik.*—You spoke of a backwardness to start those continuation classes; to what do you attribute that unwillingness on the part of the School Board?—Well, one objection is that we have no right to use the ratepayers' money for philanthropic effort.

7672. But surely if it is philanthropic effort of an educational kind, that is really a duty imposed upon you by the Education Act?—Yes, the way I understand the Education Act; that is my view of it, but that is not the view of my colleagues.

7673. The amount of money that it would require would not be large considering the high grant that is paid for these continuation classes?—No.

7674. As you are aware, the Department pays three-fourths of the expense?—Yes, I am aware of that.

7675. And, of course, this subject does come within the sphere of education as defined by the Code?—Precisely.

7676. Could you suggest any means which the Commission might adopt to urge this duty upon the School Board?—Do you mean with reference to these classes of neglected young men and lads?

7677. I mean the continuation classes; you are referring to those who have left school, I suppose?—Those who have left school very imperfectly educated.

7678. Do you suggest any means that the Commission might take to impress upon School Boards their duties with regard to that class?—I am afraid they will not allow that they have neglected their duty; they are unwilling to admit that they have any other obligation than simply to provide continuation schools generally, but not for any particular class.

7679. You have in Dundee a larger body of half-timers than anywhere else in Scotland?—Yes; we have.

7680. Therefore you are very well acquainted by experience with the wants and conditions of that class?—Yes, sir, I have given special attention to the working population of Dundee, especially those who are engaged in the jute industry, and I may mention that I am the president of an association which numbers over 8000 members, nearly all of whom are young women and girls, and I am personally known to a great many of these people, and if I only had the backing, I am hopeful that I could win a good many of them.

7681. What are the purposes of this association?—Of this association that I am president of?

7682. Yes?—In the first place it is to prevent strikes. Young people, comparatively children, have it in their power in Dundee to upset the whole industrial arrangements; perhaps fifty in a mill, boys and girls not more than sixteen years of age, if they choose to stop work they can throw the whole establishment into disorder and stop it all.

7683. And that danger is much increased by the fact that they are not accustomed to listen to advice or to have any supervision, but to act upon their own views?—Quite so.

7684. You think that for that purpose a certain amount of supervision when they leave school, a feeling of comradeship, and of acting with a certain responsibility, should be taught them?—I am sure of it.

7685. And that might be done by these continuation classes?—Yes, I think they are just the very thing.

7686. Then are you prepared to say that it would be really for the good of these young men and young women that they should be required to attend continuation classes?—Certainly.

7687. And there would be no interference with, but rather a great security to, the trade and commercial interests of Dundee?—Of course it is the very thing we need, if we can get hold of these young people and get them educated and refined and brought under influences of a different character from those which they find in the mills. We have evidence of this; we have cases in which girls have been raised from almost sheer barbarism until they are really fit to be companions of any young woman.

7688. Then as we compel those under fourteen to give their whole time at school, you do not think there would be any wrong to those over fourteen to compel them to give a few hours during the evening to such schools?—Certainly not, I think it would be of very great advantage.

7689. And it would really prevent a great deal of the good work done in the school beforehand being destroyed?—Yes; I am sure of it.

7690. Would there be any strong objection on the part of the community to any such compulsory rule?—Well, of course, they do not like compulsion as a rule, but they would submit to it, and my impression is that there would be no objection.

7691. They would recognise that it was for the good both of the community and of the individuals?—Yes; we have some little evidence of that just now in connection with our exemptions; we are exempting children.

7692. You refer to the exemptions under the Act of 1901?—Yes; we are asked to exempt children under fourteen from regular attendance at school, and we have done it on the ground—we either require a child to attend at a half-time school or an evening continuation school, and we find that the evening continuation school has been attended quite to our satisfaction. The only drawback, perhaps, was that we insisted on their attending five nights a week—Monday, Tuesday, Wednesday, Thursday, and Friday—and they find that the fifth night is not so well attended as the other four.

7693. But even three nights a week would be a very great thing?—I think so; I think three nights a week would meet the case.

7694. And quite equal to the general attendance of these continuation classes?—Yes, it would.

Continuation Classes: subject of physical exercises useful and attractive.

7695. Then you find that one of the subjects in these continuation classes—a certain amount of physical exercise—would both be useful and an attraction?—I think so.

7696. Therefore in the Code the Department might very well make a certain amount of physical instruction a necessary part of the instruction in continuation classes?—I think so.

7697. Just as is done now in the day classes?—Yes, but I think I might add to that, that I think it should be varied from the ordinary day school, because I doubt very much if these comparatively grown-up boys and girls would like to use the same sort of exercises that the children are using in the schools.

7698. Quite so; that it ought to be a system of physical exercise adapted to the wants of the class?—Precisely.

Young workers in Dundee: conditions.

7699. *By Mr Alston.*—Is it not the case that the problem of the young worker in Dundee is a very serious one?—It is.

7700. More than in most other cities in Scotland, I think?—Well, I think so, because it is essentially a young workers' industry. We have a large number of young girls and a large number of lads that can find employment up to about sixteen years of age especially, and then, so far as the lads are concerned, they are no longer of any use.

7701. Is the greater difficulty with the girls?—There are departments in the jute industry that are open to the girls that are not open to the boys. Unfortunately, in Dundee the men have never been allowed, or they have never been encouraged, to become weavers. The weaving in Dundee is entirely confined to women, and a young woman, when she is sixteen years of age, may be tired of what is called the mill, and may aspire to be a weaver, and the line of separation between the factory worker and the mill worker in Dundee is something like the difference between black and white.

7702. When does the girl go to the mill?—Now, of course, she begins at twelve, if she gets exemption. You must understand that I am always dealing in my mind, not exactly with the lapsed masses, I call them the neglected. I always regarded the Education Act as an effort to get at those people who took no interest in education themselves, and for the sake of their own good, and for the sake of the State, it was desirable to get hold of them, so naturally my mind is attracted to that class.

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7703. Then has your work lain on the side of the girls rather than the boys?—I have had the boys in my mind, but the girls have really been the most neglected.

7704. Is the working population of Dundee a fixed quantity, or do they move backwards and forwards between Glasgow and Dundee?—No, not much. Of course there are a good many Glasgow people in Dundee. They are the most difficult people that we have to deal with—some of the Glasgow girls, as we call them.

7705. It has been said that the intercommunication of these young people between the two cities is very constant?—Yes, of a certain class.

7706. In looking for work; and an immense deal of the danger and damage arises in the intercourse of these young people on the way between these two cities in travelling in large parties?—They do not travel in large parties; I am afraid they tramp from Glasgow to Dundee very often, and the Glasgow girl is a type in Dundee which is regarded with the greatest dissatisfaction. The Glasgow girl is altogether beyond the condition of almost any Dundee girl, and there is also the wretched relationships of young men and these girls that are deplorable.

7707. That is what I was referring to—one of the great difficulties?—Yes.

7708. Are the better classes in Dundee and the authorities rather indifferent to all this?—Although I am called a Unitarian minister, that does not reckon in my work in Dundee; I am really a minister at large, I may say, and I think I have been able to take a more impartial view of the work needing to be done by persons who are interested in the welfare of the community than some religious bodies who are obliged almost to reckon everything from their own organisations; they say, 'Well, if it brings numbers to our missions and adds to our reputation for good work, all 'right.' The Catholic and Protestant systematically neglect those who show no disposition to respond to the influence of religious movements.

7709. I was just going to ask you the question, when you said you had not sufficient backing in your efforts whether it arises from the fact that you are a Unitarian?—I do not think so.

7710. You do not think it does?—Oh, dear, no, I am on friendly terms with all sorts of people, and they look on this as a sort of fad of mine; I must say they think it is a hopeless enterprise.

7711. You spoke of one of the head mistresses having had very great success in the continuation schools with certain scholars, on account of the drill?—Yes, but these are not the class of girls that I specially refer to.

7712. Not these mill hands?—No, you will find, I say, that the mill hands have not taken to the drill.

7713. Are these physical exercises with musical drill?—Yes.

Musical drill: attraction.

7714. Then it was sufficient attraction, for those girls at any rate, to go to the continuation school?—Yes, so the head-mistress assures me.

7715. And you say that there is some hope that the boys would be equally attracted?—I think so.

Boys: gymnastics: proper system.

7716. A good deal of evidence before us has been rather the other way, that you would find great difficulty in attracting boys by physical exercises or any form of drill, even in continuation classes?—Well, that depends upon the boys, of course; these boys that I have in my mind are boys that would almost go to anything that would offer them an evening's entertainment. If you could say to these boys, 'now, come 'in and we will give you some gymnastics,' and encourage them, I am quite satisfied that many of these boys would do it.

7717. But you would not advocate the introduction of these methods as an amusement; you would put them under proper supervision?—Of course, but still they would not be uninteresting; I do not mean to make them amusement pure and simple, but I would recommend that there should be a proper system, and a proper arrangement of progressive work. I may say, if you will allow me, that the difficulty with these boys is that they are so rude and so rough that nobody wants to teach them; the same with the girls.

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7718. Yes, but what happened to them during school age then; were they equally unmanageable?—No.

7719. It is when they escape from school?—It is the influence of the mill.

7720. Then is that a peculiarity of Dundee?—Well, to some extent.

Mills factor distin

7721. When the boy and girl escape from the control of school, they come under influences that are highly injurious to both of them from the nature of the work in the Dundee factories?—Mills; you see we keep a distinction between mills and factories. One that works in a mill is regarded as inferior to the one that works in a factory.

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7722. Is there anything you would suggest, dealing with the very special young population of Dundee, that the Commission could recommend?—Yes, I have long thought that the manufacturers are responsible. I hold the manufacturers have no right to take possession of these young people and place them in conditions of employment where their morality is injured.

7723. In fact they place obstacles in the way of the School Board carrying out all that it might carry out in reference to these young people?—I think so; it is hardly fair to say that they place the obstacle, but they know, or they ought to know, that they treat these young people as if they were machines, without moral responsibility.

7724. You would like some method by which that could be put a stop to, then?—Well, I think that if a properly qualified matron were appointed to each mill, she would see that there was nothing done that would in any way injure the proper conduct of young girls especially. The girls suffer more than the boys, I think.

7725. Is there any inspection in these mills?—Factory inspection.

7726. Only the factory inspector?—But his work is limited, and the female factory inspector's is limited. She can only complain if she finds any want of sanitary accommodation, or finds that there are any persons engaged who are under age; she complains that she is so limited that she scarcely has any power. I may give you an illustration of the way that these women are treated in the supply of drinking water. It is a very dusty mill, and water is brought in to them, in many of the mills, in a tin can, and this tin can has a tube coming down from the top into the water, and men and women go and suck the water up by this apparatus. The factory inspector has constantly complained about that; and some of the manufacturers have now put a water tap in various places, so that the girls can use a cup and get water themselves, but many girls have told me that they have gone all day suffering from thirst rather than go and get water in that way.

Boy no neg boy

7727. On those points some other members of the Commission will probably put questions with knowledge of the subject, but there is just one other matter; you refer very shortly to the Boys' Brigade movement, of which you have no direct knowledge. We have had witnesses from Dundee who have said a good deal about that movement, and recent occurrences in Dundee have brought it very prominently to the front. Do you know anything of its effect in Dundee upon the younger boys between twelve and seventeen?—Well, as I hint in my evidence, I do not know of any case in which the Boys' Brigade has touched the neglected boy. The neglected boy is not a boy that is in poverty; he is working. A little fellow there—you would think he was not more than thirteen, but he is really fifteen years of age—told me he was getting 11s. 6d. a week, the other day. It is not poverty that troubles them.

7728. He gets the offer of the Boys' Brigade?—He gets the offer of the Boys' Brigade, but he would not remain. My observation leads me to conclude that the members of the Boys' Brigade are good boys before they become members of the Boys' Brigade.

7729. Their goodness makes them desire to join?—Yes. Now, while I do not object to those boys being members of this Brigade, I cannot bring my mind to think that this Boys' Brigade has any effect upon these neglected lads.

7730. Then, again, it is a peculiarity of Dundee that even this organisation does not get a certain class of the boy population?—I think so.

7731. Though it is successful in other cities?—In getting hold of that class.

7732. Yes?—Well, of course, I can only say that, so far as my observation goes, when I see the Boys' Brigade, and I sometimes see them on the streets, they strike me just as being boys out of a Sunday School.

7733. May they not have improved from a worse condition?—No, no. Of course any boy would be improved by being trained, but it is the moral effect of the Boys' Brigade that I am considering. If it is merely physical training, of course, no doubt, it is an advantage to any boy; but I suppose the idea is that possibly you might get hold of the rough material, and work them up into self-respecting lads, just the same as when a man joins the militia—a very rough specimen of humanity will join the militia, and, being kept absolutely under control, he is made all the better for it.

7734. Then could you suggest any organisation that would produce the results that you desire?—Well, I think the continuation school, with bright and helpful instruction in manual training, and in physical training, and in some gymnastics and swimming; but, of course, it is necessary that you should have great patience with them.

7735. We will suppose them to be under proper instructors, and under proper control?—Yes.

7736. You think the continuation class would get at what you desire?—Well, we have had some experience of them in Dundee already. We started special evening schools for mill lads some time ago under the auspices of the Town Council. They got this grant, which is given for the reduction of rates, and used a large sum of it for opening manual instruction schools, and invited the mill lads especially, and they got considerable numbers of the mill lads; but here is the difficulty—the teachers all have the desire to eliminate the rough element as soon as possible, and the continuation school goes on then with their best scholars, and the very boys for whom the thing was most needed are excluded.

7737. Suppose there were compulsory powers, of course the difficulty of the teachers selecting the pupils would be done away with?—Of course it would.

7738. Then actual compulsion seems to be the only remedy?—Unless we can reach the teachers and the managers, and impress upon them that they must always have the door open.

7739. Then, one more question—Is there anything in the work of these young people during the day that would make it almost impossible to attend continuation classes?—Nothing.

7740. No amount of over-fatigue would prevent them attending such classes?—No; they have a good deal of rest during the day; their work is not really hard.

7741. *By Sir Thomas Coats.*—I did not quite catch the difference between factories and mills; would you please explain it to me again?—The mill is the spinning department, the factory is the weaving department, or it may be also that the workers who receive day wages, and those who receive wages for what we call piecework.

7742. Then, in regard to half-timers—what proportion of half-timers do they employ in these mills compared with the whole number employed, or, take the mill itself; what proportion would be half-timers?—Well, I could not exactly say the exact proportion.

7743. Well, but roughly, would it be half?—I should think about half of the children you see there are full-timers and half-timers; they are all children. We generally speak of two half-timers for one full-timer, so about half, I should say; but I must give that subject to possible correction. It is said that in Dundee the number of half-timers is getting less.

7744. But I understand you to say that the proportion would be about half?—That is amongst what we call children.

7745. Well, up to what age?—Sixteen.

Schools.

7746. Are the children educated in special schools or do they attend regular Board Schools?—We have one special half-time school, and then in some of the mills they have their own half-time schools. I think there are two half-time schools in Dundee connected with the mills, and then we have also half-timers and full-timers mixed in two schools.

7747. What proportion would be educated in that way, that is, in the mixed schools—about half again?—I should think so; about; yes.

Half-time system in Dundee.

7748. Then the half-time system in Dundee is the alternate day system, or the half-day system?—It is both; in some cases one, in some cases the other.

7749. Then from your experience of the children do you notice any difference between those who are employed half the day and those employed every alternate day, and attend the school the other day?—That has not occurred to me; I have not noticed any difference.

7750. Those special schools; are they better staffed than the ordinary school?—Well, I should hardly think it. There is a half-time school under the School Board, and there are, I think, three half-time schools that were managed entirely by the different works to which they belong. I have no knowledge of the staff in those schools; but in our own half-time school we pay, in some cases, an extra salary to our teachers that they may be better fitted for dealing with these children.

Half-timers and full-timers: relative proficiency.

7751. Do you know what proficiency they have in their education; are they behind the other Board School children?—Well, generally speaking, it is said that the same child—a half-timer—compared with a child of the full time, the same class of child, belonging to the same social class, that the half-timer as a rule keeps up to the others. Their attendance is generally much better. On the whole, a half-timer belonging to a certain class attends—he is obliged to attend the half-time school—and he attends more regularly than he would have done perhaps if he had been a full-timer.

7752. Then do you consider that in the half-time schools they could give a certain proportion of time for physical training?—I do.

7753. Is it done at present?—I am not so sure about that in a half-time school; I cannot say. I had an impression it was, but I have not enquired into that.

Half-timers: employment of boys and girls.

7754. Can you tell me are these half-time boys and girls employed indiscriminately; are they mixed in the mills, or do the boys do a certain class of work—the half-time boys—and the girls another class of work?—It is very difficult to say what goes on in the mill. The employers do not care to have anyone go into the mills, and one can only learn by enquiry. I fancy that the boys are usually employed in what is called the low mill, and the girls are employed in what is called the spinning department; but there are boys and girls employed; but I am not aware that they are mixed in their employment.

7755. In your experience, do the half-time children turn out rougher than those who pass through the school at full-time, and commence work when school-time ends?—Some of them.

7756. But, as a rule, you would say they are rougher?—I perhaps could better let you understand my view by explaining the half-timer who has a good father and mother, and has a good home, and is under proper religious training and influence, appears to pass through the discipline of the half-time and the rough contact with the people in the mill almost unscathed; but the child who has no proper guardianship, and has no person who takes any interest in him or her, in almost every case the child loses what little self-respect the child had when leaving school, and deteriorates.

Dundee: peculiar conditions.

7757. But surely with children of such tender age there can be very few that do not belong to families, or under the supervision of father or mother?—Well,

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if I may explain to you another feature of Dundee life: we have a very large number of children in Dundee whose fathers have deserted them; a great many deserted wives; we have a large number of widows with children; we have a large number of illegitimate children. The morality of Dundee, owing to the fact that we have a much larger proportion of women—and uneducated women—than there are in some other towns, is so serious in its character; and very sad stories are told. It is very difficult to get facts in regard to some of these things; but very sad stories are told of very gross acts of immorality carried on owing to the fact that so many children have no proper parental supervision.

7758. But why should that occur more in Dundee than in other manufacturing towns; is it the nature of the work?—Well, I think that I have already explained that the Dundee industry is almost entirely a woman and child's employment, and it draws women. For instance, men that have lived in the country, and have a grown-up family, move into Dundee for the sake of getting employment for their daughters, and so they manage to make out a living. It attracts people from all parts, and, of course, the trade itself is a comparatively poor kind of work. Jute is a fabric which almost perishes in the using. There is nothing which calls out any great amount of skill or ingenuity.

7759. I am asking these questions from experience of another manufacturing town where a certain number of half-time children are employed. They are almost entirely girls, and when they leave the half-time they go on to full-time, and do the regular work of the place?—So do our Dundee girls.

7760. But there are the same number of boys born in that town, I suppose, as in Dundee?—Yes.

7761. Yet none of these boys are employed half-time; very few boys are employed in the factories, yet we do not seem to have a surplus of boy labour—I am talking of Paisley?—In Dundee the boys are not admitted to the weaving. If we could only get rid of the prejudice which exists in Dundee against boys and men taking to weaving, we should be relieved of a great many of our troubles, because there are many women in Dundee that earn £1 a week in the factories, which is a very fair wage for a woman.

7762. Yes, but neither are they employed in Paisley in that sort of work?—But they go into spinning.

7763. Oh, no?—I imagine that in Paisley there are foundries.

7764. Yes, there are foundries and engineering shops?—Well, in Dundee we have very little of that; we have no employment in Dundee to speak of for the number of lads that pass through our mills, and when they are sixteen years of age they leave the mill altogether, and they have no other employment.

7765. Thank you. I wish to find out the difference of employment between Dundee and Paisley, because I do not think that lax state of morals you talk of as being prevalent in Dundee is prevalent in Paisley?—I am sure I am very glad to hear it.

Teachers and children.

7766. *By Mr Fergusson.*—You said that the teachers complained of their inability to manage the children in the Coronation procession; what did you mean exactly by that?—Well, I, in common with some members of the School Board—in fact all the members of the School Board—thought we might have our day-school children take part in the public procession, and it was suggested to the teachers, and the teachers said that they would not be able to carry out this.

7767. Do you mean they could not control the children, or they did not know how to march them through the street?—I mean they were quite unable to manage their children in the public streets.

7768. Then it seems that the children in the elementary school are not a very ruly lot either?—It does seem like that, or rather the teachers have very little control over them, unless they were unwilling, and just made that excuse.

Continuation schools: special classes.

7769. About these continuation schools. I did not quite understand when you were answering what Sir Henry Craik asked you. Do the Dundee School Board carry out the same continuation classes that are common all over the country?—Yes.

7770. They do?—Yes.

7771. But what they object to is to do something which is not done anywhere else; some special schools for special classes of people, is it?—They say these girls, if they like, can be admitted to the ordinary evening schools. They have never been refused admission; but, of course, you may say the girls have their stupid prejudices; but the girls I refer to seldom wear a hat, and sometimes they do not wear boots—and they do not have a dress often. They just have a petticoat and a little shawl over their shoulders, and I have stood at the gate of one of our continuation schools and seen the girls coming in, and I have seen some of these mill girls standing at the gate waiting, and in marched, perhaps, half-a-dozen smartly-dressed girls, just as if they were going to church, with their hats and ribbons. These other girls said, 'We are not 'going in there with those mashers,' and so I say the poor girl's prejudice is a mistake; but I say, 'We will 'have a school for you and you shall come, and when we 'opened these mill girls' schools they were attended.'

7772. Quite so. Do you advocate making continuation classes compulsory for these girls?—I would make them compulsory. I believe we are entitled to make them compulsory, because I believe the girls are getting into mischief.

7773. Then you would have to make a different school for every class of girl?—Oh, I do not think so.

7774. I mean for the factory girls and the mill girls; they would not go to the same place?—If they were obliged to go they would have to go. Let me just say—without wishing to raise any sectarian feeling about it—the Catholic feeling in Dundee must be always taken into account. My experience of the action of the Roman Catholics is that they pay no attention whatever to a disobedient Catholic. A Catholic who disobeys the Church may go to mischief for anything that they will do. Of course the door is open for them to return whenever they choose; but if a Catholic is disobedient nothing is done for him. But they have the Catholic prejudice, these lapsed Catholics, and it has been said—and I think there is too much truth in it—that a good deal of our low state of morals indicated amongst the mill workers has been owing to a certain element that has come in not altogether from Dundee but from Ireland.

7775. You are not peculiar in Dundee. If you make this continuation class work compulsory, whether it be physical training or anything else, how are you going to enforce it? These girls, for instance, you say, do not like to mix together, do not like to go to the same class; suppose they say they will not go, what are you going to do?—Just as we have half-time schools; I would have a school for them for the purpose.

7776. No; but these girls of sixteen or seventeen will not go to school; how are you going to enforce it?—Well, it is a difficult thing to say; we enforce many things. It is the good of the girl we are after; I am quite as much opposed to interfering with the freedom of the subject as anyone, but I am very anxious to save these girls from themselves, and I think almost any kind of compulsion that could be carried out would be a help.

Open-air gymnasia for children under fourteen: supervision.

7777. You say the Town Council provide open-air gymnasia, are they free to anybody?—Under fourteen.

7778. Where are they?—The open-air gymnasium are in a public park.

7779. May not anybody who goes into the public park use them?—No, only persons under fourteen.

7780. But are they in enclosed places?—No.

7781. Then they are open to all?—Yes, but the caretaker will not let them.

7782. There is a caretaker?—There is a caretaker.

7783. Is he always there?—Yes.

7784. Then there is some supervision always?—Oh, yes.

7785. And there has been no accident?—Only very trifling accidents, just now and then. A child has

fallen off a swing. There is no trapeze, but there are some other forms of gymnastics; but the accidents have not been of any very serious nature. The complaint is—and the caretaker feels it very much (he is a very fine fellow, and has great sympathy with the working people)—that there is a restriction by which he is not allowed to give access to the playground to boys and girls over fourteen who very much desire it.

7786. *By the Chairman.*—Just on that point, about the school children being unable to take part in the procession, your attention, as a member of the School Board, has been called, no doubt, to the Circular, No. 347, of the Department; may I ask whether that has been inculcated by your Board on the teachers?—Yes, in a general way, it has been recommended to the teachers, but not this particular clause.

7787. *By Sir Henry Craik.*—May I ask if that Circular was read to the School Board?—Oh, yes, sir, we all had copies of it.

7788. *By the Chairman.*—How did your Board come to know that the teachers were unable to manage the children?—The teachers reported themselves.

7789. Collectively or separately?—Through a committee of headmasters.

7790. And what action did your Board take; did they say the teachers were right in not being able, or did they say they were wrong?—Did nothing; took no further notice of it; simply allowed the teachers to determine; they dropped the suggestion. Of course, we were leaving it very much to the discretion of the teachers; but we were anxious—some of us, at all events—thought that it would do good to bring the children.

7791. I am only asking of the Board, as a whole; of course I do not want individual opinion; but the Board, as a whole, did not think that the teachers ought not to have said they were unable?—There was nothing done; no.

7792. And nothing contemplated, so far as you are aware?—Not in the way of a procession.

7793. No, but anything contemplated in rebuking the teachers for not being competent?—Oh, no.

7794. It comes to that?—I thought I was to give an individual sort of opinion here, and I felt that that was a thing which I thought was rather unsatisfactory.

7795. And the result of it is that nothing has been done?—Nothing in the shape of a procession; but the teachers have, so far, consented to assist in the celebration of the Coronation.

7796. *By Sir Henry Craik.*—The point of importance in that Circular which has been referred to is this, 'that Their Lordships urge that of the two things of 'school work—that is, intellectual instruction and 'moral discipline—the second should be regarded as 'the more important, and it cannot be too clearly 'realised that the discipline of the schoolroom has 'failed in its effect if it is not reflected in the bearing 'and the conduct of the pupils outside of the school 'precincts'?—Yes, I quite agree with that.

7797. Was it pointed out to the teachers that they entirely failed, by their admission of this inability, to comply with that instruction?—No.

7798. *By Mr M'Crae.*—In your view the School Board of Dundee has not fully appreciated the advantage of continuation schools?—In my view, yes.

7799. Does that apply only to these special schools that you consider necessary for boys and girls of a certain class, or does it also apply to the ordinary schools?—Well, I may say that it has been said by members of the School Board that they thought they had too many of these schools and that they were an expense to the ratepayers, and there was no disposition to regard them as of so much importance that they ought to be carried out with any great enthusiasm or confidence.

7800. Can you say what number of continuation schools you have in Dundee under the Board—evening schools?—Well, we have girls; we had last year, Liff Road, South Road (mill girls)—that is the class of girl; I am speaking now of girls' schools; Blackness, Brown Street (mill girls); Rosebank, Wallace Town, and Hill Street—I think that is all.

7801. Are these all girls' schools?—All girls' schools. *Rev. H. Williamson.* 11 June '02.

7802. And what would be the proportion for boys?—Well, then the boys; we have Ancrum Road, Balgay (mill boys); that is something corresponding to mill girls' schools. For boys.

7803. So that you have a special school for mill boys?—For mill boys.

7804. One?—I will give you others; Mitchell Street, mill boys; Hawkhill, Victoria Road, Butterburn, and Ann Street (mill boys). We have three schools for mill boys, and the others are ordinary evening schools.

7805. So that from that answer I gather that you have at the present time special schools both for mill boys and for mill girls?—Yes, we had up to last year, but the Board has now resolved to discontinue the special schools for mill girls, and proposed to transfer these girls into an ordinary evening school. Special school for mill boys and girls.

7806. When was that resolution come to?—Just a month ago.

7807. In your view, these special schools were doing excellent work?—Yes, in my view, that they are capable of doing more, but the girls have so far advanced, those that remain, that they could be treated now as members of an ordinary evening school.

7808. Then I suppose that, with regard to the boys, they leave school, most of them as half-timers?—Not most of them; you see the half-time does not nearly take up the whole of the available children.

7809. Have you an interregnum in the case of the child who continues school to the usual period between leaving school and going to work?—No; oh, no. Children on leaving school find work immediately.

7810. He can find work immediately after leaving school?—Yes, he goes to work.

7811. We had a witness who gave some evidence that in certain towns there was an interval of, say, two years after the boy had left school when he was doing nothing. That does not apply to Dundee?—No difficulty at all; there is too much demand for child labour in Dundee.

7812. You said, I think, that the boy generally left the mills when he was sixteen?—About sixteen.

7813. And then what does he do after that?—Well, if he can get into the army he goes, and if he can get into the navy, perhaps he will go; if he can get into the militia he will go; but many of them get associated with girls and set up a kind of partnership of a doubtful character. The girl works. Boys leave mills when about sixteen: dangers.

7814. At that early age?—Well, not at sixteen. The trouble begins at sixteen. The lad becomes a loafer, and you may go through the streets of Dundee, and you will see in the course of half-an-hour's walk, I should think, fifty of such lads.

7815. Can you tell the Commission what time is given to physical drill in the continuation classes?—In the evening schools?

7816. In the evening schools?—Well, I do not know the amount of time. I suppose it would be one hour a week or half-an-hour a week; something like that; but, of course, it is in the time-table; the time-table is prepared.

7817. Do you know whether that is all in one evening, or is it distributed?—I do not know.

7818. Have you ever considered the proposal that there should be a public gymnasium, provided by, say, the Local Authority, for the use of scholars attending these continuation schools?—No. Public gymnasium.

7819. You have never considered that?—That has never been mentioned; no.

7820. Has it been present to your own mind at all?—Well, in connection with this public gymnasium I say when we find that there is a demand for a gymnasium for boys and girls over fourteen, there certainly should be a place made for them.

7821. And supposing there was such a building, should it be under the control, do you think, of the Local Authority or the School Board?—Well, it would be a question. I should think it would be better under the Local Authority when they got that age.

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7822. But if these children were attending the evening continuation schools, would the Educational Authority, perhaps, not have much more power over them?—Very likely, yes, perhaps they would. We have a joint committee already in connection with some of these evening schools.

Manual instruction: want of systematic instruction.

7823. I was glad to hear you say that the Town Council had been doing good work with regard to technical classes provided out of the Residue Grant?—Yes, manual instruction. Of course, I may say, I think the misapprehension about the manual instruction was that it was never systematised; it was a slipshod sort of thing saying to a boy when he came into the workshop, 'What would you like to make; would you 'like to make a stool, or a pen tray, or something of 'that sort,' and no attempt was made to systematise the instruction, so that the boys got to be really the masters of the situation; it was the boy who determined what was to be done.

7824. Was it all arts and crafts, was there no theoretical instruction?—Well, the fact is it was started with this idea; the promoter of it said, 'What 'I want is for a boy first of all to draw in the school a 'certain thing, and then go to the workshop and make 'it.' Well, anyone who knows anything at all about the difficulty of working from a drawing, would see at once that that was rather a big order for this class of boy.

7825. Was there no attempt whatever to train those lads for any particular trade?—Oh, no; of course it was all joinery work.

7826. All joiners' work?—All joinery work; there was no attempt to train them for a trade. It was an attempt to give them occupation, and on the whole I have no doubt it was a good thing to have them occupied; but I saw from the beginning the difficulty would be the want of a systematic course of instruction. Some boy would be starting upon an object which could only be really done after perhaps two or three years' training, that he required the attention of the teacher to know how to work out the details of the object he was making, and, as I have reason to believe, this sort of work has ended in a kind of failure. They are obliged now to adopt some sort of systematic course of instruction. But it was an attraction. I may say that I think the mistake about these special classes has been the charging fees. Our friends in Dundee think that a fee is a good thing even although it is paid back. My idea was to open the door just as wide as the day school and say, 'Here is your school 'open for you, if you like to come in you are wel-'come.'

Further regulations within factories desired.

7827. With regard to the conditions of employment in Dundee, in your evidence you seem to think that the manufacturer was to blame; does that apply to conditions of employment?—Yes, that is the conditions of association with his being brought into contact with people of a rough and unrefined nature, not to go any further. There is a kind of language in the relation which is very bad.

7828. Then you mean the different degrees of character in the same sex?—Yes.

7829. You do not mean that the manufacturers can make any regulations for the separation of the sexes?—No, I do not think so. What I have all along advocated is that there should be a matron, a responsible person that any girl can go to and complain if there is anything said to her of an objectionable kind. What the girls tell me is that if a man uses an indecent word to a girl, if that girl goes to the manager, the manager will say, 'Oh, never pay any attention; never let on 'you hear it.' Now, the manager and the foreman, and they are all, of course, engaged in the driving process, and I may mention I do not know whether the same thing occurs in Paisley or not, but we have a woman in most of our mills who is called a shifter driver. We have heard of a slave driver, but this is a shifter driver. A number of little girls—half-timers—are engaged in shifting the bobbins from the spinning frame, and the object of the driver is to make them do it as quickly as possible, and the one that does it quickest, of course, gets the approbation, and the one that is last is very liable to get a skelp, as they call it, and even I have heard of a mother going and getting work for a child, and saying, 'If she does not work, give 'her a skelp.' That is a Scotch expression.

7830. I quite understand it?—That lets you see that it is a question of driving up the whole, from the manager down to the half-timer.

7831. But is there no power under the Factory Acts to regulate such a condition of matters?—Not at all. The factory inspectors' duties and responsibilities are carefully limited, and all he can do is just simply to report if there is any danger from machinery, or any neglect, or any working over hours.

7832. Then your remedy would be further regulation within factories?—Yes.

7833. *By the Hon. Thomas Cochrane.*—Only two questions. You draw a very lurid picture of the condition of Dundee?—Always bear in mind that I am dealing with a class. I could also make a very fine picture of Dundee. If I speak about the other class of young women, some of the finest young women, I believe, in the country are to be found in Dundee, but fortunately they are able to take care of themselves; they do not require any help. There are some women in Dundee—you could not find better women anywhere—working women, working as Sunday school teachers, and working in every kind of good work; splendid characters. But all I want to guard against is being misunderstood — my interest is in these neglected people.

7834. Yes, you speak of the neglected class?—Yes.

Neglected class.

7835. And draw a very sad picture of their condition. Do you think that it is entirely due to neglect, or are they naturally vicious?—I think it is entirely due to neglect.

7836. And you draw attention to the fact that all these terrible appearances of moral and social evil exist, and say—'It is a startling fact that only a short time 'ago they were all in our day school?'—Yes.

7837. Their education, then, has not entirely fitted them to withstand the temptations they have been subjected to?—No.

7838. It has not carried out to the full all that you would wish from it?—No. I think there is some want—some want of oversight that should carry on the discipline of the school.

7839. In their particular case it has failed utterly?—Yes; you do not see any sign of it.

7840. No sign of it after they have left school. No sign of any benefit having been derived from their education?—No.

7841. In other cases where they are not neglected, you do see a distinct advantage?—I know half-timers, personally known to me, that have gone through the half-time department, and they have come out and gone in the factory, and you could not have thought they had ever been as much as smeared with anything offensive.

Suggestions.

7842. Then as remedy you would suggest more prolonged control?—Yes, and oversight in the mill over these young people.

7843. And you would try to strengthen their characters by some form of discipline and training?—In the continuation schools.

7844. In the continuation schools?—And I would make these free; I would have no fees.

7845. But you speak of the general apathy of the local authorities of Dundee to the question?—I am sorry to say it is so. For instance, a lady said not very long ago, 'We must reconcile ourselves to a 'certain amount of that state of things.'

7846. You yourself do not believe that that state of things must of necessity continue?—I do not.

7847. You think under proper care and supervision, and with proper training and discipline, the condition of the young people of Dundee might be very greatly improved?—Very greatly.

7848. *By Mr Shaw Stewart.*—Just one or two questions referring to your paper. In the first paragraph you do not tell us how much time is devoted to physical

training in schools, but I take it that it is about an hour a week, or something of that kind?—I may say that is about the time, I find teachers are very unwilling to give more time than they can help to anything that deverts the attention of the scholars from their ordinary work. The inspector is a bogey with us. It is painful to me to find that in almost every school that a week or a month or two before the inspection it is very little use to suggest anything. 'Oh, our inspection is 'coming on,' and that, I think, might be, perhaps, changed.

7849. I take it that your schools are very much like what we have had evidence of in other places, that if the inspector laid more importance on physical training that would be more attended to, and would, consequently, be more frequently practised?—I think so.

7850. Then you say that you have sometimes noticed that the exercises may have been too exhausting for weak constitutions?—Yes; I have been afraid of that.

7851. Supposing these exercises were taken more frequently during the week, that would probably strengthen those constitutions, and the ill effects of over-exertion would not be so apparent?—Quite so.

7852. So that an extended system of physical training in the schools would, in your opinion, benefit all the children, and do you think it would make them more amenable to discipline after they leave school?—Certainly.

7853. For these reasons you are very strongly in favour of extending physical exercises in the elementary schools?—I am.

7854. Then just one question about the open-air gymnasium for children under fourteen. Most of our witnesses have recommended gymnasium work for the older boys, not for the younger boys. In Dundee you seem to give your younger boys the gymnasium work. Does not that strike you as unusual? Can you give me any reason why gymnasium work is stopped at fourteen?—Because they leave school at fourteen.

7855. Yes; but I should have thought anyone interested in gymnasium work would have made some arrangement to encourage those at any rate who showed proficiency in gymnastics; could go on with the training?—Yes; we have a public gymnasium in Dundee, but then that is under fees and other conditions; it is not open; it is not free.

7856. This open-air gymnasium for children under fourteen is entirely free?—Yes; entirely free.

7857. *By Sir Thomas Coats.*—You told the Commission that the half-time children were fairly well abreast of the full-time children in their education; was I correct in that?—Yes, of the same class of child. You must always bear in mind that there are, perhaps, more than two classes of children. There is the child of respectable parents and the child of no parents at all; you may say so much of a poor waif. Now, if that waif were attending an ordinary school compared with what he would get at the half-time school, his education at the half-time school would be better than he would have got at the ordinary school.

7858. Might we not argue from that that a great deal more time could be given to physical training, and, say, domestic economy for girls, than is now given without interfering with the book learning of the children?—I think so.

7859. That is your opinion?—I think so.

7860. And that is the proof of it, that the children attending half-time do so comparatively well?—Yes.

The witness withdrew.

Colonel G. M. Fox, examined.

7861. *By the Chairman.*—You have no employment specially at the present time?—No; I have no employment.

7862. You are late Inspector of Military Gymnasia?—Late Inspector of Gymnasia for Great Britain and Ireland.

7863. Would you kindly read your notes to the Commissioners?—The object of physical training should be the strengthening of the vital organs, the increase of lung capacity, the symmetrical development of the muscles, and the training of the nerves to act in accord, and instantaneously, with stimuli given to them by the brain. A system having the principles of military drill running through it necessarily contributes more physical, intellectual, and moral benefit than any other. It is commonly supposed that this form of training means physical training only, whereas it actually furnishes a moral culture of no less a value than the bodily exercise it affords. It accustoms young people to prompt and unquestioning obedience, produces orderly habits, and is a most important aid in the discipline of a school. It develops more individuality, invigorates the intellect, both directly and indirectly, improves the carriage and general bearing, and fits the individual for the primary duties of life—*i.e.*, those of a good citizen. All exercises should, during the actual training, be performed to word of command, so that the actions of the pupil are continually under the control of the instructor. This also teaches the pupil to think quickly and to act quickly.

(*a*) Describe the system, the syllabus, and apparatus.—*Vide* new drill book.

(*b*) For what age is the system intended?—From eighteen upwards, the infantry recruit, on joining the Army, undergoes a gradual and progressive three months' course of physical training at his regimental depôt. If, at the expiration of that period, he be found physically fit, he is passed on to his battalion, where he undergoes a further course of 2½ months in more advanced exercises in physical training, applied gymnastics, escalading, obstacle courses, etc.

(*c*) (*d*) (*e*) What tests are made, and when? Are reports available for the use of the Commission? Describe the average physical progress made.—These questions will be answered by the inspector of gymnasia. I have seen him on the subject, and he said he had been asked by the Commissioners to supply you with that information.

(*f*) What are the defects usually shown in the recruits, physical and moral?—A very large proportion of recruits enlist because they cannot get on in civil life—from lack of intelligence, from want of grit, or other reasons. The physical defects usually observed in recruits on joining are: Contracted and undeveloped chests, slouching movements, bad carriage, and general want of development. The moral defects are listlessness; want of self-reliance and of will power, and an absence of the power of concentrating thought, and of co-ordinating action—*i.e.*, many of the so-called manly qualities on which our nation prides itself are lying dormant in many recruits on joining. Defects in recruits.

(*g*) What portion is due to feeding?—About one-third is due to deficient feeding. Proportion due to deficient feeding and lack of systematic exercise.

(*h*) What portion is due to want of physical training?—The remaining two-thirds are due to want of systematic exercise.

(*i*) How remedied?—By compulsory physical training in elementary schools from ten to fourteen years of age, followed by a more advanced course from fourteen to eighteen. This latter can only be carried out by the construction and establishment of well-ventilated and well-lighted gymnasia, or drill halls, throughout the country—and this more particularly in thickly-populated towns and districts. Remedies: compulsory physical training. Gymnasia or drill halls.

(*j*) What suggestions have you to make as to physical training for those of ages from ten to fourteen years, and fourteen to eighteen years?—The exercises in the 'Model Course' are very varied, and are suitable for children of both sexes—varying in ages from ten to Suggestions.

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fourteen—*vide* my introductory remarks. For lads from fourteen to sixteen years of age I would recommend free gymnastics, *i.e.*, exercises without apparatus, and jumping, and from sixteen to eighteen similar exercises to those laid down for recruits of a like age at a military depôt.

(*k*) Describe the average measurement taken, of height, weight, chest, arms; and the standards required.—This information will be supplied by the inspector of gymnasia.

Results obtained.

(*l*) What improvement in general health of recruits, and when shown?—This varies according to the individual, but is generally noticeable after the first month or six weeks of training; and at the end of three months there is usually a very decided improvement, both physically and mentally. But it must be noted that the results obtained will always depend very largely upon the efficiency of the instructor. I have had frequent opportunities of comparing the physical development of soldiers who have completed two years' service with that of civilians of all classes and of corresponding age; and the comparison has generally been in favour of the former, to a very marked degree. Now, not only have I seen them at clubs, and other places, but I had an opportunity in the North-Eastern District, when I was A.A.G. there, of seeing the Volunteer Service Corps Companies stripped, and they had no development. They were very often clerks who had done nothing but quill driving, and, compared with soldiers of two years' standing, they were not in it. It struck me also that when they arrived in South Africa, and after a couple of days' hard marching, they would be in hospital. I attribute the superior development of the soldier to the every-day physical training he gets as a recruit, and to the general active work he gets afterwards as a trained soldier. I am sorry to say the Volunteers I have mentioned were passed by their Volunteer doctors, who really squeezed them in. They were supposed, first of all, to be enlisted in the same way as ordinary recruits, and they had to pass the same standard of measurements, and to be examined by the local doctors. Well, having undergone this process, they were then sent to the depôt to be clothed, and to undergo a course of musketry, before being sent to the front. In one case the military doctor at the York depôt, out of about 100 of them rejected thirty-five, the result being that the captain, a very keen young fellow, came to me to protest, saying that practically half of his men, two days before embarkation, had been blocked by the doctor for deficiency of chest measurement. I went with him to the hospital, and, for my own information, had all these thirty-five stripped, and explained to the doctor that although I quite agreed with him they were not fit to go to the front, still he had no power to stop them for want of physique or deficiency of chest measurement. Finally, twelve were rejected for varicocele and hernia; but, of the others, absolutely there were quite twenty or twenty-five that went out under the chest measurement required of the ordinary recruit on first joining, which is a very low standard. That was the opportunity I had, and I had many opportunities of seeing the Volunteers of the provinces stripped.

Soldiers and civilians: physical development compared.

Might we ask about those twenty-five that went out? Do you know anything of their history?—I never traced their history; they were lost in the big crowd.

Your moral rather wants its tail?—Yes, it does; but I am speaking now of the very apparent want of development that I have seen amongst these lads who had never had the opportunity of any form of physical training. I cannot prove that they went to hospital, neither can I say that they died; but, if the matter were threshed out, I feel sure that they were but little value as soldiers, for they were physically unfit.

Physical training for boys between ten and fourteen: progressive course.

(*m*) Are gymnastic training and physical exercise preferable to military drill, shooting, etc., for benefiting youth of country, both physically and morally? Give reasons.—The physical training, as contained in the 'model course,' embodies both developing exercises for the body, and also elementary drill. And this, I consider, is all that is necessary for boys between the ages of ten and fourteen. After this age, more advanced movements—such as company drill, and skirmishing, may with advantage be taught. As proficiency is always the result of constant practice and habit in early life, I think it desirable that at this latter period accurate aiming and shooting at reduced targets should be taught. This, however, should be carried on conjointly with physical training, and on no account as a substitute for it. I do not wish you to think that I recommended shooting as a substitute for physical training.

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Then musketry is what you recommend for school children over the age of fourteen?—I recommend that they should have more advanced drill after fourteen, and that they should snap away as often as they can at reduced targets to get into the constant habit of aiming at something and hitting something. I think that our system of cramming the whole of the musketry into eight or ten days, and hurriedly firing away a lot of ammunition, is ridiculous. I think boys are so easily taught anything at an early age. The earlier you get them, the easier they learn, and they never forget what they have been taught when young.

Systems schools.

(*n*) Physical Training in Schools.—Describe systems in force within your knowledge and observation, and suggestions as to improvements and alterations.—I have had many opportunities of visiting elementary schools of every description, and have always done so, with a view to observing their methods of physical training from a practical point of view. I regret to say it has been my misfortune on several occasions to witness the performance of badly thought out and practically useless exercises, and even these carried out in such a perfunctory manner as to be sheer waste of time.

Uniform system: compuls in elementa schools: on.

(*o*) Should there be a uniform system for all? Should it be compulsory? If so, within what limits of age and time, and on what conditions?——Training of Teachers for Schools.—Should men and women be in the same class? What is the system at present? How treated, and by whom?—To obtain any result worth striving for, there must be a uniform system, and it must be compulsory in all elementary schools; and at least forty minutes daily (divided into two periods of twenty minutes each) should be devoted to the work. This sounds a good deal, but when children leave their lessons to do physical training, five minutes is gone in no time, unless somebody is in charge who has got them thoroughly in hand. If I said a quarter of an hour there would be only remaining, perhaps, ten minutes for the actual physical training.

Training teachers.

Training of Teachers.—There can be no objection to men and women working in the same class at training colleges. But, as far as I can see, it would be unnecessary. At present there is no system, except in London. But, latterly, a large number of teachers in several counties, both men and women, have voluntarily formed classes, and have placed themselves under the tuition of army gymnastic instructors for training in the 'model course,' and this with excellent results. In future candidates for the post of teachers should be instructed, whilst at the training colleges, at least twice a week in physical training, the instruction to consist of the elements of applied anatomy, physiology, and personal hygiene. The practical work of the course should consist of free movements, calisthenics, marching exercises, voice training, and methods of conducting squads. In addition, carefully selected instructors should, at first, be appointed to every two or three training colleges. It has been proved by Sir Edwin Chadwick, in connection with the Factory Act (see the *Health of Nations*, by E. Chadwick, edited by B. W. Richardson, Vol. I, Page 228), that 'the receptivity of the minds of the great mass of children does not exceed three hours daily'; and this statement is confirmed by all the leading physiologists. To keep children too long a time at book work, when no impressions are made, and nothing is gained (?) but weariness, is surely not mental training. I think, therefore, that if the time for purely mental instruction were reduced, and it were possible to introduce a sufficient amount of

Time: an of brain for childr

physical training to break up these periods, the general results of the training of the children would be greatly enhanced. I think most of these little things begin to yawn, and a good many feel sleepy, simply because their poor little brains cannot stand any more work, and I think it is waste of time, and doing them harm, if they are kept longer than three hours; and if they were roused occasionally at certain periods with physical training, I think they would do their work much better.

7864. There is one thing as regards the ordinary private soldier; you say that he has a good deal of physical training which you think improves him, but do you deprecate in any way the many hours of the afternoon and evening during which he does absolutely nothing?—Oh, yes, I think the soldier ought to be better paid; certainly he ought to be paid according to the amount of daily work he performs; he is not paid sufficient, therefore I do not think we can expect too much work from him.

7865. I was not thinking on the point of pay, but on the point of health?—Well, of course they go to sleep in the afternoon, the majority of them, they turn into bed.

7866. They turn into bed?—Yes, and then they have no food after that, bar a very scanty tea, after which they go into town, on empty stomachs very likely, and there they drink beer which does them a vast amount of harm, and they practically starve until the following morning.

7867. Not from want of opportunities to get beer at a very reasonable price in their canteens in regular hours?—They do spend a great deal of money in the canteen on tuck, jam tarts and all sorts of things, but I am sorry to say they spend a lot of money on cigarettes.

7868. But with all that unhealthy part of their lives you must put the healthy part in the morning as it were—the unhealthy part in the afternoon, and yet with all that the training that they get in the morning—the physical training is sufficient to greatly improve them over civilians of the same class?—Certainly.

7869. I mean, provided they had more healthy pursuits they would be even finer than they are?—They would be better intellectually. I do not know that they would be much better physically, because I think they could not stand much more physical work than they get, but intellectually they would be much better if they led a more reasonable life and were better handled.

7870. But still, when they are at manœuvres they have a great deal more physical work than they are usually getting?—Yes.

7871. And their appearance at the end of three weeks' manœuvring is very different, not to speak of active service. I mean at manœuvres, I take it they have prepared for it; on active service it might be or it might not be?—Although at the depôt the recruits' physical training is very varied, his every-day life is a dull one.

7872. It is not an absolutely unhealthy one?—I do not think it is an unhealthy life in any way, but it is a dull life, and I do not think they improve their intellect much; they come, unfortunately, men wanting in intellect, wanting in grit, and I think although physical training does sharpen them very much, a great deal more should be done at the depôt in the way of improvement; they want sharpening up. The physical training does sharpen them up. The old-fashioned idea of drill was to keep them standing in a cold barrack square shivering, and the drill sergeant usually contrived to make them stand still, whilst he spouted half a page of drill-book, of which they never understood a word. But I think the physical training they have now, which is the principal thing they have to do in the new book two or three times a day, two or three hours a day active physical training of great variety, does them a vast amount of good.

7873. Now may I ask, at Aldershot, at the gymnasium there, is there any practice of physical training or gymnastics, as the case may be, in the evening?—They can attend at the voluntary hours.

7874. Are these voluntary classes largely attended?—They are well attended.

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Soldiers and civilians: from fourteen to eighteen: comparison.

7875. I want to put it on all fours with what children would be after the age of fourteen—from fourteen to eighteen?—You see the soldier does get a good deal of work and get tired, whereas children and young fellows who are loafers in the street do sedentary work—quill driving—and they want this physical training very badly; and I am sure they would go to these large buildings that I speak of, drill halls and gymnasia, but the soldier, there is no doubt, does get a bit tired, especially the growing lad who has been taking a lot out of himself. He goes and lies down after his drill and regularly turns in, has a rest, but for the lads that we have in our towns, that live a stuffy life and a sedentary one; I am sure they would be only too glad to go rather than mess about in the streets with the girls. I started that sort of thing in York when I was there, with very good results.

7876. I should like to ask you another thing. A soldier, as a general rule, has not a single thought or a fear about his maintenance?—No.

7877. Therefore he is quite at ease. Do you consider that that helps in any way to keep him in a good state; in a contrary one to the civilian, who is always thinking about the battle of life, and how he is to live; you think that the civilian does not think very much about it; he must very often?—I think the soldier, as a rule, is treated too much as a dummy, and he is perpetually dry-nursed. That is one of the faults, and it does away with his individuality very much; but it never struck me that those lads in civil life think very much about their future.

7878. Still they are bound to think more than the soldier?—Soldiers are so sketchy and light-hearted, I do not think they think about the future, and how they are going to get on. The majority of them do not want to get on, because they hate the idea of responsibility. I have seen a great many very smart young fellows, and I have asked them many a time to go through a course, with a view to being gymnastic instructors, and getting on in the world. They will not do it, because they are afraid of the first step—the lance stripe. The soldier is dry-nursed; he has everything done for him, and when he is thrown on the world he still expects everybody to dry-nurse him and to find him employment.

Uniform system desirable.

7880. *By Mr Shaw Stewart.*—Of course, I will not ask you where these schools were that you speak of as having a very bad system of useless exercises, but I suppose I may take it that in them there was no system at all?—No, they had invented their own exercises, and, if it were allowed, I should think some would adopt ping-pong, others skipping, others leap-frog, etc.

7881. I take it that you would be in favour of the teachers being trained on a regular system, and that they should impart so much of their system as they thought applicable to their pupils?—Yes.

Training of teachers: time necessary.

7882. That brings us to the question of the training of the teachers. Now, you say that future candidates for the post of teachers should be instructed while at the training colleges, at least twice a week, in physical training?—Yes.

7883. But you do not say for how long?—For two hours a week during the two years they are at the training colleges. The reason I say twice a week is because it is better to spread the training over a long time than to cram it into a short time.

7884. Well, we had an expert witness before us, and he was asked what would be the proper period for a teacher to be trained, and he said two hours a day for six months?—That is practically impossible, I think, for a teacher who has to learn other things.

7885. It is impossible for him to devote that time?—Two hours a day?

7886. Two hours a day for six months, that is what we have had from one witness. Now, I would like to get your opinion?—In answer to this question, I have to consider the question both of expense and efficiency. In my opinion a qualified instructor should be appointed to carry out the 'physical training' of three

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training colleges, to each of which he should devote two *days* a week. Each student should receive one hour's instruction twice a week during the whole of the two years' course.

7887. Then we may take it from you that twice a week for two hours is the proper period for a teacher to be trained, and at the end of that time he would be quite qualified to teach on the Aldershot system?—If he were there for two years, and he had one hour's instruction twice a week, he or she would be very good at the end of that time. Women are equally good: some of them better.

Boys and girls from ten to fourteen: time necessary.

7888. Just one other question on the point; what period daily for pupils; you say at least forty minutes daily divided into two periods of twenty minutes each, and you told us that ten minutes would be too short a time. I suppose you are thinking not so much of the smallest children as of boys and girls of twelve?—I say from ten to fourteen.

Boys and girls together.

7889. *By Sir Henry Craik.*—We saw in certain schools the boys and girls trained together, doing exactly the same exercises, and I want to know what your opinion of that was?—You mean with the united squads?

7890. Yes.—Of boys and girls?

7891. Yes.—They were doing just the same exercises as the boys.

7892. Do you think that is a right thing?—Oh, quite right.

7893. And you thought that the results shown at that exhibition proved it to be perfectly possible to train the two together?—Quite. You might say that women and men should drill separately, but in all these exercises there is nothing that could be in any way immodest or injurious to a girl.

7894. You do not think that any of the exercises were over-straining the children?—Oh, no, not the least. I know the results; they never get any strain; they are simply moving their whole bodies in a very moderate way.

Volunteers.

7895. *By Mr M'Crae.*—In speaking of the great value of physical training, you instance the case of some Volunteer Service Company whom you examined as being rather under the standard?—Yes.

7896. How would those Volunteers compare with the others who volunteered from civilian life to go to the front? Had you many of those others who joined the Imperial Yeomanry straight from civilian life?—No; I did not see these Imperial Yeomanry that volunteered.

7897. I think you said in answer to the Chairman that you had no knowledge of how these Volunteers stood the strain at all out there?—Well, only from what I heard, that they were rather disappointed with them when they came out and had to do the work. You see they had the uniforms on and they looked all right. I am not speaking of the Metropolitan Volunteers; I am speaking of the provincial ones; the Metropolitan Volunteers were quite different; they all have their athletic clubs—beautiful halls, some of them; the London Scottish have splendid halls, and these are athletes in the true sense—splendid; but I am speaking now of the places where they have no chance of physical training, and they are simply leading a sedentary life; those are the lads you want to get into these drill halls.

Public gymnasia recommended.

7898. Would that apply to our provincial towns generally?—Oh, yes, it applies. They have not got enough of them, and they only want well-lit, well-ventilated halls and good instructors, and these lads, instead of loafing about as they do, would flock there in the evenings. I tried it at York, and we had a gymnasium started for young fellows mooning about in the streets. They used to come there, and we had young women's classes for young women full grown, and they put themselves into it; they worked like niggers.

7899. Do you think that is general over the country?—Oh, yes, the only thing is, these places as a rule are too small and very dark. They are most unattractive.

7900. Speaking from my knowledge of the Royal Scots Service Company—we sent three out from Edinburgh in connection with the Lothians' Brigade—three Service Companies; they had very hard work, and there were hardly any cases—only one or two cases—of sickness?—They vary very much. Putting aside these Volunteer Corps, if you strip civilians of twenty, and compare them with the soldier stripped, you will see a great difference between the civilian stripped and the soldier stripped.

Model course how c

7901. *By Mr Fergusson.*—May I ask you a question under the head '*j*' about the Model Course. 'The 'exercises in the Model Course are very varied, and 'are suitable for children of both sexes.' Is that the Model Course of Aldershot?—No, I will tell you what the Model Course is; in the drill book, and especially in the new drill book that has just come out, in part one, and in an appendix at the end of the book exercises are laid down for recruits of the Army, and the Model Course is taken almost verbatim from that very course. The only alteration they have made is not to call it 'drill'; they call it 'Physical Training,' which combines drill and physical training.

7902. Is that training founded in any way on Sandow's system?—No, I do not think there is anything in it that pertains to Sandow.

Sandc syste

7903. We had Sandow here yesterday, and he told us that his system had been adopted in the Army. Then he proceeded to tell us it was absolutely unsuited for children?—Yes, it is. Well, there is nothing of Sandow in it. I must tell you that at one time we tried and experimented; we tried everything; I have been abroad in Germany, Austria, Italy and France. In all those places I have seen their training. I have taken the trouble to go with introductions from our Intelligence Department. I have been to Sweden twice. I have been to France, Germany, Austria and Italy, and seen all their training, the whole of their training, very carefully.

7904. With all that experience your opinion is that the Model Course in the new drill book is the most suitable for children?—I am sure it is. I will tell you one thing about Sandow just to explain. He may tell you that we are using his exercises in the Army. We did, and we had those exercises; for instance here with dumb-bells, very light dumb-bells, standing up and doing these things of his. Well, now, I am working very hard at the present time, very hard, but if I as a child like to do that, I can go on for an hour doing nothing you see, I can illustrate it in a second (*illustrating*).

7905. I understand exactly what you mean?—It means really that now I am going to do a thing in a limp sort of a way. There, you may work for ever; it is no exercise whatever. Now, if I set my muscles, and, in fact, make the antagonistic muscles fight one another, I am straining myself, I am hard at work, and I could develop my muscles without a dumb-bell. Well, we found that these were useless unless the child likes to work and the recruit likes to work, he can shirk the work and apparently go through the exercises, but there is nothing in it.

7906. This Model Course in the drill book is meant for lads of eighteen?—Well, of course, the Model Course also brings in apparatus work. The Model Course is the copy from the drill book, leaving out the apparatus work for recruits.

7907. It would not be too severe for children?—Oh, no, because it is a mere matter of the size of the dumb-bells; little wooden dumb-bells or nothing in their hands, these exercises could not strain the child in any way.

The witness withdrew.

Mr Henry Dyer, C.E., D.Sc., examined.

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7909. *By the Chairman.*—You have been a member of the School Board of Glasgow since 1891?—Well, I was elected in 1891, but I was out of office for one term from 1894.

7910. But you have been a member since 1897?—Since then, yes. Before that date some attention had been given to the subject, but not in a systematic manner, too much time being devoted to mere display and insufficient to exercises which were of value for the development of the scholars. I found a great part of the time taken up with what you may call show as distinguished from real physical training, and some of us who took an interest in the subject pointed out that that might be very useful as an amusement in the evening. They gave entertainments pretty often in the evening, which I said, after all, was a physical exercise of little educational value. After discussion we had a special committee appointed for the purpose of superintending physical education, not without a certain amount of opposition from certain older members of the Board, who reminded us that physical training was no part of the business of School Boards, as the subject was not in the Code. As matter of fact it did not get into the Code till 1895. I think I am right as regards the date. Since that date, as Mr Alexander, our clerk, told you, we have made steady progress, but we have had so many other things to attend to that it has not been developed quite so fully as it could have been if we had had more means and time at our disposal. Mr Alexander, the clerk, gave the Commission an account of the present conditions under the Glasgow School Board, so that it is not now necessary to enter into details regarding them. As convener of the Evening Classes Committee I have done all in my power to encourage systematic exercises in the various schools, and advantage has been taken of the gymnasia which have been erected in different districts of the city. Many of the scholars of the evening classes, however, are too tired with their work during the day to be inclined to take up gymnastic exercises to any extent. We have included physical training in our evening schools as far as we possibly could, but of course you understand a great many of the boys are at work all day, getting out at half-past five or six in the morning, and working all day, they are very tired, so that those who are so engaged do not care very much for physical training. We have a considerable number of clients of ours who are engaged in lighter work who like it, and we give them as much of it as they will take; in fact we have a considerable number of gymnasia in different parts of the city, and we utilise these as far as possible, and we give them exercise in the halls of the schools; these are large halls, as you know, where we give a certain amount of physical free exercises. In my opinion, more time should be devoted to physical training in the day classes, short sets of exercises fitted to develop the various parts of the body being given two or three times a day. Greater attention should be paid to exercises in breathing, as experience shows that when these are carried out in a systematic manner they have a wonderful effect on the health and development of the scholars. The ventilation of the schools should be carefully attended to. With some developments, the present system is, in my opinion, sufficient for the scholars of the day schools. When possible, however, they should have the use of a field for games and for free exercises of all kinds. With regard to boys between the ages of fourteen and eighteen years, I believe it would be in their interests if they could be induced to attend continuation classes two or three evenings a week, and a considerable proportion of the time might be taken up in recreative and physical exercises. Whether legislation is either possible or desirable is a point on which there is likely to be considerable differences of opinion, but without legislation a great deal could be done if employers of labour took some interest in the education of their apprentices, and did not employ them simply for their cheap labour. This, of course, opens up many economic and social questions regarding hours of labour, conditions of work, housing, and food, all of which have a very close connection with the physical state of the scholars. A good system of national education should lead to the solution of these problems, a bad one will intensify them. I agree with the opinion expressed by the late Professor Fawcett, that 'Probably the greatest good 'to be ultimately anticipated from education is to render 'possible the realisation of higher forms of social in-'dustrial development,' and it was for this reason that I brought the following motion before the School Board of Glasgow:—'That this Board fully recognise the 'necessity for due attention being paid to the physical 'training of the scholars in the schools, so that they 'may grow up with sound minds in sound bodies. The 'Board have, during recent years, largely developed the 'facilities and opportunities for such training, and are 'anxious to adopt the most improved methods and ap-'pliances. At the same time, the Board have a most 'decided objection to any system which introduces all 'the details and methods of military drill, and tends to 'encourage a spirit of militarism among the scholars 'which, in their opinion, is opposed to the true interests 'of education.' This motion was agreed to, with only one dissentient. The latter part of this motion may provoke discussion and probably opposition; but I thought it very desirable, in the present state of public opinion, that attention should be directed to the educational and economic issues involved. The object of all education should be, not only the realisation of the highest physical, mental, and moral power of the scholars, but also the improvement of the great body of the people as a conscious social purpose. That result is not likely to be reached by the cultivation of a military spirit, which is essentially anti-social, and by the expenditure of a large part of the wealth of the nation on non-productive efforts, which lead to the industry and progress of a century being annulled in a few months. Of course, under present conditions, I recognise the necessity for an efficient Army and Navy. Whatever arrangements are necessary for these should, in my opinion, be made after the scholars are eighteen years of age, and they should be looked upon as necessary evils. It would simply be disastrous to cause them to be looked upon in our schools as the chief ends of education and of national policy. I believe that the spirit which dominates education is of far more importance from a national point of view than either the subjects or methods. Although I have for thirty years taken an active part in technical education, I am more than ever convinced that if our national system of education consisted chiefly of instruction in technical subjects combined with military training, it would only hasten our national ruin. Our object should be to fit men and women for their daily work, and at the same time impart that culture which will inspire them with high ideals of individual, civic, and national duty.

Glasgow School Board resolution.

Object of education.

Military spirit undesirable.

7911. Have you any supplementary statement to make before the members of the Commission ask you questions?—I wrote this out very hurriedly; I had only an hour or so to do it, and I have only given a brief outline of my opinions, and I have stated in my note that I would be very glad to give any verbal explanations that may be necessary. With regard to the last two sentences, I do not know whether you know—Sir Henry Craik probably knows—that thirty years ago I went out to Japan to introduce technical education there, so I have taken a special interest in that side of the subject, and I think what I have said about physical training shows that I am fully alive to the importance of physical training. I have given an outline of my opinions, and shall be very glad to answer any questions that may be put.

7912. *By Mr Fergusson.*—With regard to the evening classes: you think it would be desirable to continue physical exercises after children have left the elementary school?—If other conditions could be made suitable.

Evening Classes: conditions of labour.

7913. Certainly, that is just the point I want to get

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at; is that a very difficult matter to do; would it not interfere, do you think, with the occupations which the children are engaged in?—Well, for those engaged in clerical work there would be no difficulty, but for those engaged in manual work I think there would be a very serious difficulty under present conditions. We find, for instance, that tradesmen, whenever they get busy, have not the slightest hesitation in causing their apprentices to work overtime; and even shopkeepers and others keep the scholars for extra work in the evening, which prevents them coming to our classes. If it could be made illegal to employ apprentices to work overtime till they are twenty-one years of age, probably then you would be able to carry out your wishes with regard to training after fourteen years of age.

7914. Do not say they are my wishes; I want to know what your views are?—I beg your pardon; to carry out a systematic course of training.

7915. Supposing you made physical training compulsory, say from the ages of fourteen to eighteen, in your view you would have to grant a great many exemptions for those who were engaged in occupations which prevented them attending?—Either that, or arrange that the occupations should not be taken up when that was to be done.

Physical training should form part of a course of instruction: inducements rather than compulsion.

7916. Which would you prefer?—Personally I would rather that the physical training—well, I am not much in favour of that being taken up by itself, it should form part of a course of training. You have assumed, of course, that physical training could be made, or should be made, compulsory; I am not sure that that is a very desirable thing under present conditions. I should like to see it encouraged as far as possible. But the question is, how far it is either possible or desirable to make it compulsory. I should rather like to see it made impossible for young people to be worked more than a certain number of hours per day, so that they would have every opportunity and every inducement to take up not only physical training, but mental training.

7917. But still, if you did that, you would not catch the loafer, who is the lad you want chiefly to get at; he would still refuse?—I am afraid the loafer requires very special legislation from many points of view, and physical training by itself would do little to reform him. You must cultivate his brains as well as his body.

Compulsory attendance, and exemptions.

7918. Let me suggest the idea of making attendance compulsory, with a wide range of exemptions—all those who were genuinely learning a trade, or who, from the nature of their employment, were unable to take up physical training. Those would be exempted and the loafer would be caught; what would you say to that?—Personally I would have no objection to it, but I am afraid it would raise a considerable amount of opposition to it from the employers of labour.

7920. But why?—Simply because they wish to employ cheap labour as much as they can. Of course it would come exactly to the same thing if you made it illegal to employ the boys beyond a certain number of hours per day.

7921. Do you not think the employers would kick worse at that?—That is the form I would prefer it to be in; it would lead to a more uniform result.

7922. Best for the boys?—Yes.

Compulsion applied to loafers desirable.

7923. *By Sir Henry Craik.*—The Commission will no doubt agree with you in the statement that you make, viz., that whether legislation is possible or not is a question which will arouse considerable differences of opinion; but what they would like to know is, what is your opinion upon the point; are you in favour of compulsion or not?—Well, in the first place, I would prefer to see compulsion applied in another direction—in the way that I have indicated—that it should be made illegal for apprentices and young people generally to be employed beyond a certain number of hours per day.

7924. But you have told us that would not touch the case of the loafer; do you wish compulsion applied to the loafer, yes or no?—Yes, I would.

7925. You say a good system of national education should lead to the solution of these problems; a bad one will intensify them?—Yes.

7926. We will all agree in that, of course. Would you give us any practical suggestions as to what changes should be introduced in order to solve these very large economic questions?—Well, I am afraid that takes us into a great many social and economic subjects.

7927. Hardly, perhaps, covered by the scope of the reference to this Commission?—I think not.

Milita... traini...

7928. You speak further of an objection to a system that introduces all the details and methods of military drill; are you aware of any system being in use which introduces all the details of military drill?—No, I am not aware of any system which introduces all the details.

7929. Well, your objection only applies to a system which, so far as you are aware, nowhere occurs?—Well, that is not quite—what I did wish to object to, and what I suppose the Board when they agreed to this motion objected to, was not so much to that as to the spirit and objects and methods introduced.

7930. Introduced where?—Or likely to be introduced.

7931. On what do you found that probability?—Well, I think it is very evident in recent years and in recent months that there is a strong trend of public opinion in the direction of military drill in our schools.

7932. Your closing sentences in your resolution were directed against the trend of public opinion, as you believe, not against any definite system which existed?—The object of the resolution was to help to form public opinion in what I believe to be the right direction.

7933. Taking the last paragraph, have you found reason to think that the arrangements for the Army and Navy are anywhere considered to be the chief ends of education and of national policy?—Well, I think some of the continental countries make that to a very large extent the chief ends of national existence.

7934. And you wish to make a precaution against that?—I do.

7935. It is not anything that exists either in England or Scotland to which you can point as an existing fact?—No, except this, that the tendency of events in this country is in the same direction as those which have occurred on the continent in recent years. You know Germany, of course, and if you compare the Germans of to-day with the Germans of thirty years ago, from an educational point of view, I think the comparison is not very favourable to the present day.

7936. You state that the object should be to fit men and women for their daily work, and impart to them that culture which will inspire them with high ideals of individual, civic, and national duty?—Yes.

7937. That is a view in which, I presume, you have the agreement of all persons interested in the subject?—Without exception.

Milita... Board resolu... trend ... public opinic...

7938. *By the Hon. Thomas Cochrane.*—I wanted to clear up, if I could, the point that Sir Henry Craik was asking you about. 'At the same time, the Board have 'a most decided objection to any system which intro- 'duces the details and methods of military drill.' I did not clearly understand what system you referred to?—Well, in the first place, I think the system to be introduced should consist largely of what should be called free exercises, apart altogether from the methods or objects of military drill. That could be done without introducing even the idea of military drill into our schools. Of course you would have a certain amount of marching and forming, but it would be largely free gymnastics.

7939. I quite understand the system that you propose should be introduced, but there was some system that you proposed should not be introduced; what system was that?—I think rather that is not quite a fair way of putting it, if you will allow me to say so. For instance, in Switzerland they have, as you know, a citizen army. The work for that is undertaken after the young men are twenty years of age, beyond school years—ordinary school years—whatever may be necessary after eighteen or twenty. That is a matter for further decision

and discussion; but I believe that, up till that age, it is possible to give, by means of free exercises and gymnastics, all the physical training which is either desirable or possible.

7940. I quite understand that; I thought there must be something in your mind when you moved this resolution. Taking you as typical of people who object to any militarism, I wanted to know what caused this alarm in your mind?—Well, it was not so much alarm as—I explained to Sir Henry Craik—the object of forming public opinion on the subject. For instance, some years ago, when I came back from Japan, I stayed a few months in Paris; I found the boys from ten to fifteen years of age being drilled as little soldiers, marching about the streets with small rifles. That I consider most objectionable in our schools, and I may tell you that it was that, and such things as that, that I had in my mind when I drafted that resolution.

7941. No practical suggestion that had been made for introducing a similar system in this country?—That is not said in the resolution; it was guarding against the possibility.

7942. Guarding against a possibility that you had no reason to believe was likely to arise in England?—I think it is quite a legitimate position for a public body to touch on the trend of public opinion, and to guard against what they believe might be a danger.

7943. You think there is a trend of public opinion, then, in favour of militarism?—Certainly, both inside our schools and out of them.

7944. You mentioned Japan; you were employed, I think, in Japan?—Yes, I was Principal of the Engineering College there; it was I who started it there.

7945. Were you in Japan long?—I was there ten years; Baron Hayashi, who got his D.C.L. at Cambridge the other day, was my colleague; it is thirty years since I went.

7946. Is there any system of physical training there?—I introduced Scotch games into our college. I think I got more credit for that than for the engineering at first, but nothing in the shape of drill. Of course you know that compulsory military service is part of the system there after school years.

7947. *By Sir Thomas Coats.*—You talked of the desirability of apprentices being obliged to take evening classes: is that not general in Glasgow?—Not general; but it is probably more common in Glasgow than almost in any other city; but, though we have made considerable progress, it is still far from being general. Of course, I am a member of the Institution of Engineers, and I have tried to induce the employers of labour in Glasgow to make it part of their apprenticeship system, and a few of the most considerate employers have done so, but only a comparatively few.

7948. Would you consider that apprentices of the engineering shops or shipbuilding yards, after they have done their ten hours at their ordinary work, would be too tired to take physical drill in the evening?—I think a good many would. I am an engineer myself; I have gone through the workshop, and I know exactly what it means. I have attended evening classes too, and it was with considerable hardship, and I should not like it to become universal. Such classes may supplement day classes, but the chief part of the education should be given in the daytime.

7949. But even a moderate amount of it—say half an hour three times a week—would that be excessive?—Oh, no, I do not think so, because, as measure of fact, if it is given in a proper way, even if they are tired after their ordinary work, it will really be a relaxation.

7950. So that would not be a fatal objection to giving physical training in the evening?—No. What I said here was, they did not take to it voluntarily; they were too tired to take to it of their own accord.

7951. You lay stress on breathing exercises?—Yes.

7952. What form of breathing exercises?—Well, probably you may have seen a report by Dr Kerr, now of the London School Board. He was formerly medical officer for the Bradford Board. They have carried out exercises in Bradford with very great success, and, I believe, in one or two other School Boards; and, of course, everyone who knows anything of physiology, knows that if a child is taught to breathe properly, it has a very great effect upon their physical development, not only on their lungs, but on their physical development generally, and on their speaking.

7953. But have you any system laid down?—No, I have not. There are two or three experts in London who have paid special attention to this subject.

7954. You have no particular system in your mind to recommend?—There are several experts who have made this a speciality, and it is well known that if a little attention is paid to it, apart altogether from drill, simply walking along the streets, it has a great effect on the health.

Germany: education: results.

7955. You said in regard to Germany at the present day you did not think that the education of adults in Germany compared favourably with that of former years?—No, sir, I did not say that. I think if you measured the educational results as they are usually measured by examinations, they do compare favourably. What I meant to say was that the effect on the people was very different from what it was thirty years ago. I heard a well-known authority saying the other day, philosophy and poetry disappeared from Germany on the arrival of martinets and manufacturers.

7956. Do you not think that Germany at the present day is a much more dangerous competitor with this country with regard to manufactures and chemical produce?—I have every report that has been published about Germany. I know pretty well what they are doing, but notwithstanding that fact I think it might lead to very serious national results before long. I admit the necessity for full technical education, but I want a different ideal in education from that we find in Germany at the present time.

7957. They are becoming much more dangerous to this country in the way of competition?—I quite admit that.

7958. Comparing the German with the Hollander, passing through Holland to Germany, one notices a difference in the appearance of the German from the Dutchman; in his smartness, in his physical development, in the way he holds himself?—I admit that; but he may not be a better man, notwithstanding; after all that is not the chief end of life.

Military drill for schools: elementary part approved.

7959. *By Mr Shaw Stewart.*—Mr Chesterton, who was a witness before us, said that he thought that military drill might be given after school age. Before that the object should be to improve the physique of children; I take it that is your view?—The evening school age; what was the age that he gave.

7960. I took it to be fourteen?—Oh!

7961. He was speaking of elementary schools—Board schools?—Of course in Scotland, though the age is fourteen for ordinary schools, they look upon sixteen as the normal school age, or even more.

7962. He was applying his observations, of course, to London, which, as you say, is rather different?—Yes.

7963. The groundwork of military drill is founded on the best-thought-out system of physical exercise?—Yes.

7964. For the elementary portion of military drill, therefore—if you approve of physical training—you do not object to physical training being the same as the physical training in the Army?—Not at all; I think it everything that is good. What I wished to avoid was what I call the military spirit of the military subjects.

7965. Therefore in that paragraph from your motion before the School Board of Glasgow you would lay a special emphasis on the word 'all': 'All the details 'and methods of military drill?'—Yes.

7966. A little lower down, in the last paragraph, you say you recognise the necessity for an efficient Army and Navy, and then you go on to say, 'that 'any arrangement for these should be made after the 'scholars are eighteen years of age.' But surely that would hamper the Navy very much if boys were not allowed to be trained before the age of eighteen for the

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Navy; have you thought of it?—Well, of course, the training for the Army is not between the ages of fourteen and eighteen. I quite admit in the special case of the Navy, boys who would think of the Navy would go to special schools; I imagine they would not be trained in our ordinary schools.

7967. But you are not against boys being trained for the Navy; boys who have made up their minds to go to sea?—Who have made up their minds to enter the Navy would naturally go to special schools.

Continuation schools: loafers; opinion.

7968. I would just like you to explain a little further on the question of the 'loafers,' which would be a difficulty in the question of continuation schools. You made the remark that you would be in favour of special legislation for loafers; might I ask in what direction?—Personally, if you want a personal opinion in this matter, I should like to see education in its fullest development compulsory up to eighteen years of age; and under that I would have a due proportion of physical training. And, of course, you would catch the loafer in that way.

Compulsion.

7969. Therefore you would be in favour of compulsory attendance at continuation schools?—Yes, but not necessarily simply for physical training by itself. I should make it part of a course of education.

7970. A due balance between mental training and physical training?—Yes.

7971. *By the Chairman.*—You say you have been member for some time of the Glasgow School Board; have you always been elected unopposed; have there been a great many candidates?—We have all the evils of the cumulative vote.

7972. Have there been a great many candidates; how have you come in as regards the poll?—Well, I have not stood very high on the poll.

7973. I only wanted to know?—Allow me to say I do not think that means much by the present system of election. With a few churches behind you, you can get a large number of votes; if you do not happen to be connected with the Church organisation, you may have a small vote.

7974. You say you were one year or three years out of it?—Three years.

7975. One period?—Yes; of course you are elected for three years. Do you wish to found anything on that, because I am quite willing to make a remark on the subject.

7976. No; it has nothing to do with physical education, has it?—No; it has not. I merely wished to say that my friends seemed to be so certain that I would be re-elected that they did not trouble to vote—at least they said so.

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Militarism.

7977. *By Mr Alston.*—You took part in the resolution of the School Board not to admit military training?—Yes, I moved it. I explained that I did not object to the methods of military drill so far as they tended to physical development. The chief thing to which I objected was the spirit of militarism which made military action the main object, or the chief object of education

7978. Have you any proof that that is the object of military training?—I simply say—as I explained before to the Commission—that some of us felt that there was a tendency in that direction, and we thought it was right that a public body like the School Board of Glasgow should help to form public opinion in another direction.

7979. You are convinced that that feeling is pretty general, then?—Well, if you judge from the papers.

7980. I think we quite appreciate the position that the Glasgow School Board take up, probably a safeguarding position?—Yes; well, that was the chief object of it.

Boys' Brigade.

7981. But the main point, so far as I am concerned, is to see that they do not adopt the wrong impression that the Boys' Brigade tends to a spirit of militarism?—I have not been discussing the Boys' Brigade at all. Sir John Cuthbertson said that while they affected some of the methods of the Army in the Boys' Brigade, they had a higher object in view.

7982. The first object is not military at all?—And, moreover, the Boys' Brigade is a voluntary organisation which uses military drill for a very different object.

School age in Glasgow.

7983. *By Mr Fergusson.*—Arising out of what you said to Mr Shaw Stewart, may I ask about one answer which I did not understand? You said sixteen was the school age in Glasgow?—Sixteen is the school age for our higher grade schools; fourteen is the compulsory age, as you now know; but sixteen is a very common age for boys and girls too in our higher class schools, so I merely wished to understand what the gentleman meant by school age, when he spoke of school age. By the Code, I believe, we are allowed to keep them on till eighteen, and will get grants for them, so that school age is an indefinite term in Scotland.

The witness withdrew.

The Rev. Andrew Laidlaw, examined.

Rev. A. Laidlaw.

7984. *By the Chairman.*—You are minister of St George's-in-the-Fields, Glasgow?—Yes, my lord.

7985. And also for nearly twelve years a member of the School Board of Glasgow?—I have been about eleven years.

7986. And have had an opportunity of knowing a little of young life in the city—middle class and poor—and as a member of the School Board have been in close contact with the children of the city?—That is so.

7987. Now, will you kindly read from your notes, beginning with paragraph 1?

1. When I joined the Board it had no physical training committee. Physical drill was not systematically given. Teachers might give extension exercises, etc., and those who had served in Volunteer regiments may have had elementary military drill in their schools, while some of the janitors who had been soldiers may have drilled the children in the playgrounds.

2. In perfect accord with the Education Department and the School Board in their encouragement of physical drill in the schools, and willing to adopt any improved methods. Particulars of the School Board's work in this direction have already been given to the Commission by Mr Alexander, our clerk.

Continuation schools.

3. With regard to continuation schools: think it would be good to have physical drill in every school, and elementary military drill in halls or playgrounds for lads two or three nights a week, or, if necessary, a special drill class on an additional evening per week; but, of course, like all other School Boards, we want to do this without laying additional monetary burdens on School Boards.

Cadet corps: aims.

4. Would be pleased to see cadet corps attached to Volunteer regiments in all the higher schools. Such a corps has been recently sanctioned in our Boys' High School, Elmbank Street, its object being, as stated in circular to parents: 'At the outset it should be observed 'that membership of this company is not intended in 'any way as preparatory for, or introductory to, the 'profession of arms. The positive aims of the Cadet 'Corps are—

(*a*) The improvement of physique.
(*b*) The inculcation of habits of obedience, discipline, and self-control.
(*c*) A quickened sense of school life and unity, and the development of public spirit.
(*d*) A realisation of the responsibilities which must be incurred, and the duties which must be discharged as citizens of the Empire.'

5. I also think that some kind of corps for boys of fourteen and upwards, in the poorer schools socially, would be good. Such corps might have caps and belts, and possibly some simple tunic.

Boys' Brigade.

6. Think the simple dress and belts of the Boys' Brigade prove how attractive it is to lads to have some distinguishing garb! Heartily approve of the Boys' Brigade movement. Have had a company in connec-

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tion with my Sunday schools for many years. My opinion is that the boys of the Brigade are, as a whole, better conducted and more respectful than the other boys of the schools. They seem to realise the responsibility of being members of a body banded together for 'the advancement of Christ's kingdom among boys, 'and the promotion of habits of obedience, reverence, 'discipline, self-respect, and all that tends towards 'a true Christian manliness.' This is the terms of constitution of Boys' Brigades.

7. While of opinion that such corps as I have suggested in continuation schools would be good for lads from fourteen to eighteen years of age, yet I can foresee that it might do harm to the Boys' Brigade, because the military and physical drill (which is undoubtedly attractive to lads) would be given in the schools weekly; while the connection with Christian organisations, and the careful oversight by the officers, which the Brigade as a religious institution insists upon, would be awanting.

8. I do not give an opinion whether or not compulsory physical or military drill in continuation schools—I mean after fourteen years of age—would be good for citizenship, or add to the sources of national strength, but if it should be introduced, my opinion is it should be by national decree, and not through the medium of educational machinery.

9. The time of a lad's life between twelve to eighteen years of age is one of the most important periods in forming habits for good or ill, but beyond that I think it would be of the greatest good if all lads after eighteen years were induced to serve in volunteer regiments for a few years. Those who need most to do this are that large class in our great cities which are not got hold of by Boys' Brigades, nor would be got at by continuation classes—such as shock one by their rudeness of manners and speech, etc., say at football matches and such-like gatherings. It would be of the greatest good to citizenship, and contribute largely to the sources of national strength, if such could be disciplined to habits of obedience, control, and self-respect.

7988. *By Mr Fergusson.*—With regard to the continuation schools after school age of fourteen—between the ages of fourteen and eighteen—you are in favour of carrying on instruction from fourteen to eighteen, I think?—Certainly.

7989. In all subjects or only in physical training?—Oh, well, of course I am in favour of the continuation schools in all subjects; we have only physical training at the present moment, I believe, in nine of our continuation schools; I could tell you exactly.

7990. Would you make any of that training compulsory?—My desire is not to make the physical training compulsory if you have not the other part of the training compulsory.

7991. Supposing you made some attendance at continuation compulsory and made physical training one of the subjects; would that meet your views?—Of course in order to get certain classes compulsory, even in any education in continuation schools, I suppose you would have to get parliamentary powers to do that; you have no power now.

7992. No, no; I am asking what you would like to see done?—I would be perfectly prepared if it is brought forward fairly before the country, and the country agrees to there being continuation classes, certain of them being made compulsory, including along with them physical training, to accept that most cordially.

7993. But how do you think that would affect the boys who are working; would they be able to attend continuation classes?—You mean apprentices and others who are working. Well, it is rather a difficult question, because those lads, so far as I know, who attend continuation classes have no privileges as to time and labour from their employers. It is just possible if there was one or two classes of that kind, if they were not heavily burdened, they might be able; but certainly if they were to go through the whole continuation curriculum I should be inclined to think it would be too much for working lads to do it.

7994. That is to say it would not do to make it compulsory, would it?—That is what I say.

7995. You might make it a compulsory system, with wide exemptions given to those who were learning trades and who were genuinely unable to attend?—But I am afraid you would find that those who are attending our continuation schools are nearly entirely learning trades, or clerks all day in business.

7996. Then they can attend the continuation schools?—They can attend the continuation schools, and take so many classes that are suitable, but if you make it compulsory that they have to take so many classes, I think it would have an evil effect upon our continuation schools.

7997. I am only suggesting that two hours or three hours a week should be made compulsory in any subject they chose?—I want to understand your question; does that mean to say that the idea is to have all the subjects at evening classes made compulsory; is that the question you put to me?

Compulsion: objections stated.

7998. No; I mean that it should be compulsory to attend evening classes for say three hours during the week; the subject that was taken up should be whatever the boy chose; physical exercises would be one of the subjects, and mathematics would be another, and so on?—Well, so far as I can at present say, my feeling is not to have any compulsory subjects beyond, at present, those given by Parliament up to fourteen years of age.

7999. Is that because you do not like the principle of compulsion, or because you do not think that the boys could find time to attend?—It is because I do not like the principle of compulsion chiefly beyond fourteen years of age, and in the second place because I think there are very few boys who are working who would be able to take more than one or two classes.

8000. Then how do you propose to deal with this loafer, whom you have described as a rude and ill-mannered person, who will never do anything if it is voluntary. He still will be loafing; how are you going to deal with him?—Well, that is a very wide—a very difficult question. I cannot give any way of dealing with him, except by compulsion. I take it the lad is beyond eighteen years of age. I do not see myself that there is any possible way of dealing with him except by compulsion.

Loafers and compulsion.

8001. That is why I suggested to you compulsion, with very wide exemptions granted to those who were genuinely learning a trade?—But I do not wish compulsion during the time they are attending school. When I speak of compulsion it is compulsion for those who are beyond school.

8002. *By the Hon. Thomas Cochrane.*—Beyond compulsory school attendance—beyond fourteen years of age?—Beyond eighteen years of age; I speak here largely of the class that are beyond eighteen years of age.

8003. *By Mr Fergusson.*—I am talking of boys from fourteen to eighteen; and how are you going to deal with that large class of loafers who are learning nothing but evil?—I do not think the continuation class will deal with that class. The class that come to our continuation schools are the lads who are apprentices, or clerks, who have some ambition; and that class is not the class that needs compulsion.

8004. No, quite so?—And the continuation school does not touch the class of loafer at all.

8005. But if you compel them to go there you might teach them better ways, and you might keep them out of mischief?—That is quite true; but if you compel them to go to those continuation schools (that class after fourteen years of age) and make it universal, then you will have to have powers for the continuation schools, the same as you have for day schools, up to fourteen, and I do not think that Scotland is prepared to accept that.

Cadet corps and circular letter.

8006. *By Mr Alston.*—At the end of paragraph 4 you say—'At the outset it should be observed that 'membership of this company—namely, the cadet corps

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'—is not intended in any way as preparatory for or 'introductory to the profession of arms;' and under letter '*d*,' down below, you say—'Its aims are the 'realisation of the responsibilities which must be in-'curred, and the duties which must be discharged, as 'citizens of the Empire'?—I am quoting from the circular which has been issued to the parents, under the sanction of the Board, by the Rector.

8007. Is this not a little contradictory? Letter '*d*' seems to imply responsibilities as 'citizens of the 'Empire,' which involve military training, and yet your cadet corps is not intended to have military training with the view to the profession of arms?—Yes. This is a quotation from a circular that has been issued to parents in regard to the formation of this cadet company, for which I am not responsible.

8008. No?—But I do not think the words 'the 'realisation of the responsibilities which must be in-'curred, and the duties which must be discharged, as 'citizens of the Empire,' points towards the profession of arms.

Terms of reference: construction.

8009. Is it fair to say that a good many of the public have taken it up, that the last clause of our remit clearly points to the profession of arms?—Not only that; not only the public, but many of the School Boards have taken it up as pointing to that; that is quite true, but I am not sure that they have taken it up quite fairly.

8010. That is your view?—Well—I am rather in the peculiar position of having supported a motion which seems to point straight in that direction, and yet I seem in some way to be opposed to the views of the motion—my explanation has been made in public, and can be found in the *Glasgow Herald* of May 20th, 1902.

Compulsion.

8011. Speaking of compulsion, of course, if compulsion were enforced by what you call in one paragraph a national decree,' all conditions of work and employment would require to fit in. The difficulty of getting at the boys who are at work would be done away with?—Yes; but I feel that if compulsion is to be brought in at all, compulsory physical training, or compulsory physical education, or compulsory mental education, that it is a thing that should be brought rightly before the people, and not in a sort of side-way; people suspect that is being done.

8012. But you used the phrase 'national decree'?—Well, I meant a national decree very much in the line of a Parliamentary Bill.

8013. If that were done, then you would get rid of all difficulties about getting the boys free from work?—Of course you do.

8014. Perhaps, from a certain point of view, such compulsion would be the cause of great dissatisfaction?—Well, I am not prepared to give an opinion, not being an expert; but I know that there is a strong feeling against it. I am perfectly sure of this, that if compulsion were introduced in that way, we would honourably accept the position.

8015. *By the Chairman.*—As to the feeling in Glasgow on the subject, can you give the Commission any information about that from what you know yourself?—I am afraid I cannot very well. As indications of feeling after the discussion in the School Board, nearly the whole of the Press were against the Board, and in favour of one gentleman who had taken an appeal against the Board's raising a bogey in regard to your reference, as he said. I think all the leaders were against the position that the majority of the Board seemed to take up; but as to what the opinion of the people of Glasgow, as far as one comes across them, I am unable to form an opinion.

8016. I rather want to get away from the bogey; I want to ask what your opinion is regarding the feelings of people in Glasgow regarding physical training as physical training; have you ever heard one way or the other?—I do not think so.

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Opinion Glasgow.

8017. Physical training being applied in schools to start with, or afterwards, is there any opinion that you know of? You must know the opinion of a good many people in Glasgow; have you ever heard any remarks on the subject; have you ever heard anyone interested in school inspections taking any interest in physical training as exhibited at the examinations?—Certainly there is a very great interest in the exhibitions of physical drill and all that sort of thing that we have had hitherto, but I am not sure that I have heard opinions beyond the fourteen years when we have children in the elementary schools.

8018. No; but up to that?—Up to that most certainly, and I think, if I am able to judge at all of the opinion of Glasgow, that it has shown indications in favour of this—well, they call it military drill. I am sorry for the name, because I think that it is giving a false impression; but in Glasgow it was that the Boys' Brigade began, and it is there that possibly we have the largest number of boys being trained under the Boys' Brigade, greater than any other city in the kingdom. That is the only indication I can give you. My own opinion is that Glasgow as a whole is favourable to such physical training.

System desired.

8019. *By Mr Shaw Stewart.*—Apart from the military side of physical training, do you think that a system of physical exercise in the elementary schools would help the pupils towards manual dexterity in after life?—I do think so; but I think that the system might be more systematised than it is now. I have before me the training book of the English Board of Education, which, I am told, is pretty much the setting-up drill at Aldershot. I do not see why we should not have a manual very much on the same lines from the Scotch Department.

8020. *By Mr Ferguson.*—What is this side wind which you think is going to bring in all sorts of dreadful things. Anything we like to recommend might be made the foundation of an act of Parliament, but we have no power to make rules as to what is to be done; how do we bring it in by a side wind?—Well, through an Education Commission, through educational machinery, I say.

8021. Still, anything would have to be done by Parliament; there is no side wind in that?—It would have to be brought before Parliament, but my feeling is that it should be fairly put before Parliament apart from education altogether.

8022. *By the Chairman.*—What should be put fairly before Parliament?—The question of compulsion.

Compul-

8023. Has it been put so before; there has been compulsion hitherto, has there not; there is a difference in the way of compulsion now from what there was in 1872?—You mean the compulsion in regard to elementary education to be applied to education from fourteen to eighteen years; then I should say they should be tested through the educational departments; but if it is to apply to a special subject like physical education only, which is being interpreted military drill, then I fear that the country is not quite prepared to receive it in a gracious spirit.

Terms of reference

8024. You find nothing of that sort in the remit?—I do not suppose I am the only one who has told the Commissioners, that such things as *compulsory military drill and service* have been read into the vague terms of the remit. Personally I take a wider view of the remit and its scope.

8025. We have to take a rather close view of the remit.

The witness withdrew.

Lieut.-Colonel W. G. Don, M.D., A.M.S., examined.

Lieut.-Col. W. G. Don, M.D., A.M.S.

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8026. *By Professor Ogston.*—We should like to put on record in the first place your various titles and the authority with which you speak. I may therefore have it put down that you are a Doctor of Medicine, and a Lieutenant-Colonel of the Army Medical Staff, that you are Honorary Deputy-Surgeon-General, retired pay, Senior Medical Officer, London recruiting district?—Yes, I think that meets all the description that I could give you of myself.

8027. And your experience, of course, has been very large and long?—Very large. It is much larger than any man living or dead; nobody ever had the opportunities that I have had in recruiting.

8028. Many years?—Seventeen years.

8029. And your interest in the subject, of course, has been close in consequence of your connection with that office?—Yes. I retired seventeen years ago from the active list, and took up this appointment. I had previously to that been in the War Office six years, and I had a good deal to say to recruiting there too. I have been at St George's Barracks since 1885.

8030. And you still hold this office?—I still hold it pending the end of the war.

8031. Would you kindly read your written evidence?—I venture to express opinions only upon mattters on which I consider I possess special expert knowledge. The following observations are the outcome of extended experience during forty-five years' service, of soldiers, and especially of the physique of boys, recruits, and reservists, of which I have personally examined over 100,000 during seventeen years' connection with the London Recruiting Staff. It should, however, be borne in mind that my experience is not altogether such as would fall to those who may conduct medical examination and anthropometry indiscriminately among the youthful population at large, because recruiting subjects brought before the medical officer have already undergone a rough primary selection by the recruiters, whereby those obviously undersized, or who present visible physical defects, are largely eliminated. I think that provision should be noted. It makes my evidence somewhat different from that of those who would go indiscriminately and measure the population at large. Boys under sixteen, however, undergo much less of this primary selection, and so may be fairly taken as representing the average youth; the following are the general impressions left on my mind through the examination of thousands of them. Boys for the army are nearly all between the ages of fourteen and sixteen, and are drawn chiefly from military schools, charitable and other institutions, and training ships. Their physical development varies to an extent that would not be predicated, and in a degree indeed surprising. I may tell you that in a military sense a boy is one under sixteen, and so may be fairly taken as representing the average youth. I often find boys of the declared and verified age of fourteen or fifteen looking not more than eleven or twelve, while others present the development, including puberty, of lads of eighteen or nineteen years. Some two or three years ago—I do not think I passed the lad—some of my colleagues passed a boy as eighteen. He had a moustache, he had evidence of puberty, he was a great big fellow; I forget what he weighed—about some 130 lbs. or 140 lbs. and he was actually claimed by the School Board afterwards as twelve-and-a-half years of age. Well, I was asked to comment upon that, and I said that nothing under a sworn oath before a magistrate would make me believe such a thing. I firmly believe it was a got-up case by his parents, who produced the certificate of a younger brother or something of that sort. That has often been done. I have seen a mother come to the recruiting office and declare that her son was under age. The son would turn round and say—'Mother, 'you know you are lying; that is not my certificate; it 'is Bob's or Jim's,' or some other, a younger brother. That is the sort of thing that goes on unless you are very careful in verifying an age. Such extremes of relative development I do not think can be wholly ascribed to or determined by variation in food, environment, or physical training in childhood, but rather to inherent elements of growth in individuals—whether through heredity or otherwise. I found that remark upon this fact: take the Duke of York's School, for instance, here at Chelsea, where they are all the sons of soldiers, and are admitted at a certain age, after nine or ten, and they are all examined before they are taken in to see that they are in good health and afford every chance of growing to fair average-sized men, fit for the service, and so on. Of course the great majority of them enter the service afterwards. Then, again, take the Gordon Boys' Home. For a number of years I have passed to the Gordon Boys' Home nearly all the boys that pass in in London. Of course I do it as a charity. Gordon was an old friend of mine. These boys are passed into these institutions and they all have the same environment, they all have the same food, and they all have the same training, yet I see the very same extraordinary variations in development, so you can hardly ascribe it to anything except individual peculiarity. That is what made me put in that. But it is at the same time very noticeable that boys from training ships and institutions where good food is dispensed, healthy environment secured, and judicious physical training carried out, have superior development, especially in chest and weight, to those less favourably reared. I should expect the average normal development of boys between fourteen and sixteen to range as under:—

Extremes of development: reasons.

Boys fourteen to sixteen: average normal development.

Between fourteen and fifteen years.

Height, min. 54, max. 60, mean, 57 inches.
Weight, „ 70, „ 85, „ 78 lbs.
Chest, „ (quiescent) 27, max. (expansion) 30 in.

Between fifteen and sixteen years.

Height, min. 57, max. 63, mean, 60 inches.
Weight, „ 75, „ 100, „ 90 lbs.
Chest, „ (quiescent) 28, max. (expansion) 32 in.

Of course we get them above 57 inches sometimes. Among boys, height and weight, the latter chiefly from growth of the lower limbs, increase more rapidly than chest girth. Boys coming within the range of the above figures I should consider fair average specimens, likely to grow into good-sized men. Youths of seventeen and upwards also show great variation in development, but in a somewhat less degree than boys. The youths of seventeen that we enlist are for the militia chiefly. An eligible militia recruit between seventeen and eighteen should present the following dimensions:—Height, 62 inches and upwards, weight 105 lbs. and upwards, chest, 31 inches minimum and upwards. Tall youths have often defective chests, short lads better ones; it would almost seem as if perpendicular and horizontal growth were carried out at the expense of each other. Youths over eighteen vary considerably in all standards, but if normally developed should have a maximum chest of at least 31½ inches, a weight of 112 lbs., and be 63 inches in height and upwards. Development goes on more slowly and continues longer in some persons than others; increase in height can hardly be expected after twenty, but chest and weight often increases up to twenty-five years. I am convinced that judicious physical and military drill, if combined with sufficient food and healthy environment, will signally contribute to the moral as well as the better physical development of boyhood and early manhood. I have often passed into the militia slovenly, slouching, awkward and poorly-fleshed lads, who, after a three months' training enrolment returned to enlist in the regulars, and found them with not only increased physical development, but smart, clean, and self-respecting, so that, in homely language, 'their own mothers 'would hardly have known them.' I have known a militia recruit increase as much as a stone, 14 lbs., during his three months' training. A militia recruit is trained for forty-nine days—that is seven weeks—usually, but if the regiment is embodied and sent to Aldershot,

Lads of seventeen and upwards normal development.

Lads over eighteen.

Militia recruits: effect of training.

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he may be three months there, so that for the three months he gets good food and fresh air and all that. It is wonderful the changes that come over them. Militia recruits often gain from 5 to 10 lbs. in weight and an inch in chest girth during a seven weeks' training. The question of physical defects seen in recruits, which might be largely prevented or modified during the period of boyhood growth, opens up a wide and most interesting field. I am decidedly of opinion that much might be effected in this direction in at least minimizing defects.

The following seem a few instances :—

Defects: feet.

Feet defects.—Such as contracted toes, overlapping toes, bunions, corns, etc., are so common, that perfect feet are more the exception than the rule. These defects and deformities are very largely the result of ill-fitting foot gear, especially the abominable but fashionable boot with pointed toes.

Teeth.

Teeth defects.—The neglect of the teeth among the class from which recruits are mostly drawn is deplorable; I feel certain much might be done to remedy bad teeth by inculcating cleanliness and the evils of oral sepsis, and by skilful dentistry during boyhood and youth.

Eyesight.

Visual defects.—Congenital errors in refraction should be artificially remedied, when discovered, in early youth; but I fear no such remedies can ever bring such eye defects up to the standard of vision required in military service.

Spinal curvature.

Spinal curvature.—Lateral spinal curvature is largely caused by asymmetry of the limbs; I should say, perhaps, one person in forty has one leg more or less shorter than the other, a defect easily seen in the unsymmetrical horizontal level of the hip bones, when standing erect with the feet together; such congenital defect (often unrecognised in childhood) throws the weight on one side in walking, causing lateral spinal twist, which ultimately becomes permanent in growth. Many a boy and girl could be saved from unsightly deformity by simply raising the boot heel of the short limb sufficiently to bring the hips into a horizontal level in walking.

Military drill: example of best form for children.

The best military drill I have seen for young people is that practised at the Royal Military School, Chelsea, of which an interesting exhibition was lately given at the Military Tournament. I am often asked whether I think the general physique of the Army has deteriorated within my recollection, and answer I do not think so; but I am absolutely certain the moral tone and intelligence of the men have materially increased. While standards in measurements have, no doubt, been lowered, the stringency of medical and military selection of recruits has been much increased within the last decades. Previous to 1879, standard measurements were part of the military, and not of the medical examination; they were then in the hands of recruiters, and carried out in a very loose and unscientific manner, so that statistics of them before 1879 are extremely unreliable. That fact is very often forgotten. I have been much struck with the splendid physique of reservists, and especially of the last batch of Imperial Yeomen, both fully developed men of from twenty to thirty-five years of age. None who have seen them could believe that these men had in any way declined from the standards of their forefathers.

No deterioration in general physique of Army.

8032. Your statement is so very much to the point, that I think there are only one or two remarks that I should like to make in regard to it. That explanation that you give that the former statistics were somewhat loosely taken is most important?—You mean before 1879?

Measurements: before 1879 loosely taken.

8033. Yes?—That it is often forgotten. Before, the recruiter's object was to pass a man into the service, and the medical officer was not responsible for chest measurement and height. If the doctor saw a man who obviously had been wrongly measured, he said, 'Poor 'physique; I will not pass him'; that was the way then. The consequence is, the poor physiques disappeared very largely from the Returns after 1879, and came under deficiency in chest measurement. I have brought with me the last Return of Recruits—the Annual Return at St George's Barracks; you will see what I mean by that. *(*Return handed in.*)

8034. I suppose that you are also aware that your observation that the general physique of the Army has not deteriorated within your recollection corresponds with the statistical observations of Galton and others regarding degeneration?—Yes, I think so.

8035. They point in the same direction?—The class of men. There are a great many more townsmen in the service than there used to be; when I joined the 28th Regiment in 1858, a purely English regiment, a Gloucester regiment, we had no less than 300 Irishmen in it. They had come in through volunteering chiefly from the other regiments, after the Crimean War, and were sent out to India; these Irishmen were nearly all countrymen. A great many of them could not read and write. That element has almost entirely disappeared, at all events, out of the 28th Regiment almost entirely. There are no Irishmen in it hardly; it gets plenty of men from Bristol. Owing to the location of regiments in different districts, you now get men of the same class, of the same kind, in each district. At that time, also, the proportion of Irishmen was 350 per 1000 in the whole Army; now it is down by last return to 104. Your Irishman is a countryman, as a rule, not a townsman. A great many of the English and Scotch recruits are townsmen, except perhaps from the extreme north of Scotland, the Cameron Highlanders for example.

8036. In the third page of your evidence, where you state that feet defects, teeth defects, visual defects, spinal curvature, and other defects might be minimised, I presume that you mean that a properly carried out physical training and proper inspection of them would be the means by which those could be discovered?—Most unquestionably, especially in the teeth and asymmetry of the limbs. I have noticed very markedly a great many men have a short leg and a long. If you make them stand up in this way, you can see the hip bones are not in a line. If you take a book say an inch thick and put it under the short leg, the man stands straight. If I noticed a boy or girl of say six or eight with a short leg and a long, if among my own children, I would be very careful about that, and would put a piece on the heel at once.

8037. You think the proportion of those so defective is not greater than one in forty?—Well, I should say, roughly, that among thirty or forty men in a day I find one. It is mere defect, as a rule, and does not unfit a man, but it gives him a slight lateral curvature. It is often very markedly seen in women; their dress shows it off when you are walking behind them.

8038. The figures that you give as to average height and weight that you would accept; I suppose those are from your own observation?—My own observations. I thought I would give them to you as some indication. They are not very easily got. There are not many people who could give you that information.

8039. Yes, that is so?—I have examined thousands of boys, and know exactly, when I see them come before me, what their weight and size is, before I inspect them.

8040. You are more moderate in your estimate than from such tables as Galoton has drawn up from the whole population, high and low?—That is so; I put that proviso in the early part.

8041. There is a point which I think your experience would help us to understand. Some experts and others who have been before us have made very startling observations regarding the increase of chest girth in a surprisingly short period. Perhaps you would allow me to put the matter before you in a series of questions, so as to illustrate it. I have been thinking it over how I should ask you about it. I suppose that a good deal depends on the ribs?—You mean chest girth?

8042. As to the size of the chest and the amount of air that can be taken?—The only way in which you could arrive at an absolutely correct estimate of a

* *See* Vol. I. Appendix IV.

man's lung capacity is by the spirometer, because you see some tall men have long chests. Other men have broad chests, and others deep chests, fore and aft. It is the round man that measures best. You see a square fellow, and you say, 'What a big 'chest he has'; but if you put the tape round him, you will be surprised to find it is very moderate after all. In the case of a tall man, his lungs are longer vertically than those of the short man.

8043. I suppose in all men the ribs hang down like the handle of a pail, they are oblique in position like that?—They are oblique.

8044. And when he takes a long breath they are made more horizontal, but still not absolutely so?—I may tell you measuring chests is a fine art; there is nothing but practice that will enable a man to attain it, and there are many that one might say are handless, as they say in Scotland—not very handy—they never become good measurers at all. I have seen that over and over again.

8045. The personal error is important?—A great many measurers tighten the tape too much, compress the surface, which is not fair; a great many also want a forced minimum. That is not fair. The minimum the man goes about with is a true minimum. Under ordinary circumstances I could force down a minimum an inch, perhaps, but I could not make them more than their maximum expansion. I have reached these facts a long time ago. Now we have a series of new tables we are measuring on, and at the end of this month, will report on them. It is practically the maximum that is now the standard.

8046. I suppose when a man slouches—stoops his shoulders—that he lowers his ribs and lessens his chest capacity?—Well, when you measure a man's chest, you must make him keep down his shoulders. He is always inclined to pull up the muscles, and so lessen the actual measurement of the chest. We make them put down their shoulders, keep their arms to their sides, and stand quite easy and quiet, but have great difficulty in effecting that; they will always want to go to the maximum. They are proud to do that, and blow themselves up as hard as they can.

8047. When you deal with recruits, a great many of them stoop, and so lessen their chest capacity?—You have just to watch them, and see that the tape is properly adjusted. That is one great point. It must be over the angles of the scapula behind, and above the nipples in front, but not compressed too much.

8048. Does not the curving of the back lessen the capacity of the chest? It lowers the ribs and lessens the expansion?—It is part of a forced minimum.

8049. When you straighten a man's back you raise his ribs and his chest congests more?—When he throws back his shoulders, as he is very apt to do, that does not increase his chest, but rather takes away from it.

8050. If you straighten his back it diminishes his chest capacity?—Let him stand quite still and quiet, and not move his limbs or shoulders in any way whatever.

8051. My point is this, may not some of those systems that have been brought before us, of simply rendering a man more straight, explain how in a few lessons or days his chest capacity may be altered?—Exactly, he gets up to it.

8052. And in your recruits when you set them up; when you straighten their spines and get them into the habit of walking with a straighter spine, the chest capacity is by that alone increased?—Undoubtedly, there is a knack in expanding the chest like anything else. You see that very much with militia recruits. Green youngsters—slouching fellows—after a certain amount of training come back to enlist in the regular army, and expand the chest much more freely and nicely.

8053. So that the slouching recruit compared with the trained recruit is simply the same man, but taught to hold himself better?—Taught how to hold himself; but, no doubt, the chest does increase under good food and training, and physical drill and so on.

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8054. Yes; but not within a week or two?—No, but in seven weeks you see a difference; you often see that after seven weeks' training in the militia, and much more after the three months when the corps are embodied.

Physical training and food.

8055. *By Mr Fergusson.*—Twice in your statement you say 'physical training if combined with sufficient 'food will signally contribute to the physical vigour,' you lay considerable stress on sufficient food?—I do, sir. Of course that is one point connected with army training. For instance, in the militia, if you get a flabby fellow, perhaps a potboy or a barman—something of that sort—he rather loses flesh under his physical training to begin with; but, if his food is sufficient, he immediately begins to put it on again, but if you strain them and do not give them enough to eat during their training, I do not think that you will have the good result you otherwise would have; they should have as much to eat as they like.

8056. Looking at that as applied to children—which we have got to deal with—you say you would have to be very careful how you gave physical training to underfed children?—Most certainly.

8057. And also that you ought to take steps, as far as possible, to see that the underfed ones were better fed?—Better fed, certainly. Training is bad unless you give the muscular system sufficient food.

8058. May I ask you what is oral sepsis?—It is a term which has been lately applied; a friend of mine wrote an article on it. Anything which produces putrefaction in the mouth, such as half-masticated food sticking in the teeth, want of cleanliness, no doubt has a great effect upon the teeth, and causes caries.

Drill: Duke of York's School.

8059. 'The best system of drill,' quoting from what you have said, 'I have seen for young people is that 'practised at the Royal Military School, Chelsea'; that is the Duke of York School?—Yes.

8060. What system is that?—I could not tell you what system it is.

8061. But it is extremely good?—It is part of the physical army drill adapted to boys.

8062. It is what they call the Model Course, is it?—It is what they call ordinary physical drill, as opposed to military drill.

8063. It is nothing special for the Duke of York School; it is out of the Drill Book, the Red Book?—I think there is something special.

8064. You do not exactly know?—It struck me at the Military Tournament; I had never seen certain things before.

8065. As far as you have seen, you think it extremely good?—Extremely good. These boys come largely before me; they are very nice boys; if you saw them put through the drill, you would understand what I mean.

Feet and shoes.

8067. *By Mr Shaw Stewart.*—I would ask you to help us on the point of the feet. We have had some rather conflicting evidence as to whether the children's feet should be treated in schools under a system of extended physical training. Some witnesses were very strongly in favour of removing their boots and giving them either stocking feet or shoes for tip-toe exercises and other exercises, to improve the feet. Would you advocate that?—Well, I think that a child's feet should be very carefully attended to, because they will not complain; they will seldom tell you if a boot pinches them or is too short. I have found it from my own children; they have to be watched. 'Now that boot 'is too short for you,' I say. 'Oh, I do not think so,' but it is, all the same. The feet grow rapidly, and the deformities that we see causes a very considerable amount of rejection, as you will see from the army statistics which I gave you—105 out of 3908. These would be nearly all contractions and bunions, flat feet, and so on; they will squeeze their feet into boots a size too small. The consequence is, that when they grow up and come to recruiting age, you see very serious malformations—overlapping or hammer toes, and all that sort of thing.

8068. I would put it to you in this way; supposing a school fund which is able to supply its pupils with

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shoes to put on when they came to school, and to keep on all day till they left, enabling the children to go through their physical exercises in these shoes at stated periods in the day, do you think that would have a good effect on their feet in after life?—I think it would, most distinctly. I may state that I have got one small boy—I am a grandfather otherwise—about nine years old, who takes shoes to his school on drill days, and the sergeant makes him put them on, and drills him in these particular shoes—soft shoes, you know.

8069. Does he only put them on for the drill, or does he keep them on all day?—For the drill; he calls them his drill shoes.

8070. *By Sir Thomas Coats.*—You say, 'I am often 'asked whether I think the general physique of the 'Army has deteriorated within my recollection; and an- 'swer I do not think so, but I am absolutely certain 'the moral tone and intelligence of the men have mater- 'ially increased.' I would like to ask you in your long experience regarding the class of recruits coming from the larger towns, have they got worse; I mean to say is the physical development of lads offering themselves as recruits worse? Of course, as you say they come before you after they have been selected?—That is it; I do not see all the various weeds; I see a good many weeds too. We have this difficulty with our sergeants, although we train them as well as we can, not to bring the halt, the maimed, the blind, and the lame. If we are too strict and too hard on the recruiters, and do not give them considerable latitude, they might miss good men, who otherwise would pass when they came before the examining officer; but still recruits undergo a very considerable selection before I see them. When I entered the service in 1858, I was sent over to Dublin, and the first thing told me was, 'You had better learn recruiting.' I look back to the old gentleman—I suppose he was my own present age—who examined recruits; it was a perfect farce—there were no measurements; no vision tests; no stethoscoping. I cannot help thinking the Army is now a very much better selected body than it ever has been. The approving officer is very strict upstairs; we may pass downstairs seventy in a day; but when we ask, 'How many did you swear in yesterday'? we are told fifty—twenty held over for enquiries; among them some are absolute frauds, and that sort of thing.

Physique of army: improvement.

8071. My question was rather in your experience whether you could tell us whether the class of men offering were better or worse than they were during the time of your experience—twenty or thirty years ago?—I think the class of men offering are better than when I was young. I remember a lot of rascals in our regiment; I do not think they exist now. The last regiment I was with was the 6th Foot, in India, twenty-six or twenty-seven years ago; half of them were teetotallers; that was absolutely out of the question in my younger days—there was no such thing—and the number of courts-martial have decreased immensely.

8072. But for physical development do you think there has been any improvement? or has there been a decrease in the down line?—I do not think so; I think that the stringency of the medical and other examinations have made up for anything that might happen of that kind.

8073. I think you hardly understand what I want to be at; it is not those who are taken into the Army that I refer to; I mean those who offer; is that selection smaller than it was to get suitable men?—You mean do we reject more or fewer?

8074. No, what I mean is this; are the men who offer themselves as recruits better or worse than they were thirty years ago?—I think on the whole they are younger.

8075. They are not perceptibly worse set up; they are not worse?—No, they are younger than they were; there is no doubt about that; we do not catch the same proportion of men over twenty years that we used to get. The fact is, that they are settled in life now about twenty. I always like to catch a soldier young; get a young fellow and he makes a better soldier in the end.

8076. *By Mr Alston.*—I wanted to get the same opinion as Sir Thomas Glen Coats has asked for. I might turn it in this way. Your evidence says that you find no deterioration in the physique of the Army; has your experience led you to say that there has been no deterioration in the race generally?—I do not think so; I really do not think so.

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8077. Even in urban young men?—Even in urban, I do not think so. I think they are better fed, and altogether the population is on a somewhat higher plane than it was forty or fifty years ago.

Environment.

8078. That leads me to call attention to the second paragraph upon the second page. You say, such 'extremes of relative development I do not think can 'be wholly ascribed to or determined by variation in 'food, environment, or physical training in childhood.' The use of the word 'environment' there is in reference to a particular variation of development; but we had a witness before us the other day who spoke very strongly of the evil effects of environment, and particularly, he said, in London, in the crowded parts of London, the densely-populated parts of London with very high buildings, he found the physique was distinctly inferior as compared with the other parts; do you find the same?—Well, I could hardly discriminate between one part of London and another. It might be done if you found out the man's birthplace, but it does not follow that what he gives as his birthplace is where he has been reared.

8079. That is to say the facts that come before you do not lead you to put your finger upon the evils of environment with reference to city life?—I use that word environment with reference to public schools like the Duke of York School.

8080. But the other you found to be a just test of judgment?—Yes.

Army improvement in moral tone and intelligence.

8081. Another point; at the top of the last page you say, speaking of the general physique of the Army not being deterioated, 'But I am absolutely certain the 'moral tone and intelligence of the men have materially 'increased.' Why is that so?—Through education, I should think—less drunkenness and fewer petty offences.

8082. Has this moral tone and intelligence of the men been proved before they come into your hands, or is it a result of military training?—Both, I should say. They are better educated men, and then they are very carefully selected; it is wonderful the way in which a man's antecedents is now followed out. We hardly ever get a man to present himself for enlistment that is well known to the police as a blackguard; he avoids the recruiting sergeant quite as much as the policeman.

8083. The selection is closer now?—Oh, very much closer.

8084. But apart from that do you find a distinct improvement in the moral tone and intelligence in consequence of drill and discipline in the Army?—I think so.

8085. Would you say the same thing would take place in boys if the same discipline, the same control, the same methods, were adopted in the schools?—Most distinctly.

8086. The other point is in the last paragraph, in which you say you were 'very much struck with the 'splendid physique of the reservists, and especially of 'the last batch of Imperial Yeomen'?—Yes.

8087. Do you happen to know where they came from?—Oh, they came from everywhere. You see, the first yeomen sent out to South Africa were examined by civilian practitioners. A great many were passed that should not have been passed—that would not have been passed by a military medical officer. The last batch were put upon us in the month of January. We had 1200 of them at St George's Barracks, and of course getting superior pay; they were a superior class of men altogether; they came from every part of the three kingdoms.

8088. You find the same splendid physique among the reservists—old soldiers?—That shows what can be done with army training.

Col. Don. A.M.S. — *e '02.*

8089. I would ask you this. Were the Imperial Yeomen volunteers for the first time desiring to go to the front?—Many of them volunteers for the firs ttime.

8090. Do you find many men in the volunteer rifle regiments (infantry) going to the front?—We found many good men among them, but they were very carefully selected regimentally.

8091. Would you draw any distinction between them and the yeomen?—They were not quite so big as the yeomen, some of whom were too big for their horses.

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8092. Would that arise from the yeomen being from the country?—A great many of them were country gentlemen.

8093. That is from the country and accustomed to country life?—Roughriders, gentlemen, farmers, and all sorts and conditions of men. A wonderful collection.

The witness withdrew.

Adjourned.

SIXTEENTH DAY

Friday, 13th June 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir HENRY CRAIK, K.C.B.	Mr J. B. FERGUSSON.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Dukes, B.S. — *'02.*

Mr CLEMENT DUKES, M.D., B.S., examined.

Mr C. Dukes, M.D., B.S. — *13 June '02.*

8094. *By Professor Ogston.*—We would like, in the first place, Dr Dukes, to have noted down your qualifications, as, of course, they give value to your evidence. You are M.D. of London?—B.S. London, and F.R.C.P. London.

8095. You have had considerable experience of medical practice, and the subject that we are dealing with also?—I have been physician to Rugby School going on for thirty years now.

8096 Also in general practice?—Yes.

8097. So that you can judge from your practice among private children of the middle and better classes as well as boys?—Yes, in all classes.

8098, And you have, of course, thought a good deal upon this subject?—Yes, very greatly.

8099. Then would you be so kind as read over your evidence? You need not adhere to it rigidly unless you choose, if you wish to amplify it. Have you any knowledge of the standards of height, weight, chest girth, spirometry, and biceps girth of children at various ages from six to eighteen years?—The most trustworthy tables I know are those worked out by Dr Charles Roberts. I am in process of collecting these details of 1000 public school boys, but have not yet recorded an adequate number to be of any value. Mr Cecil Hawkins, an assistant master at Haileybury College, has worked more at this question than any other human being, and could furnish statistics of value. I append Dr Charles Roberts' tables, as I am unable, in the short time at my disposal, to work out others.

TABLE showing the average and mean height and weight, and the annual rate of increase, of 7855 boys and men, between the ages of ten and thirty, of the artisan class—town population:— Tables: artisan class.

Age last Birthday.	Height, without shoes.				Weight, including clothes of 9 lbs.			
	Average.	Growth.	Mean.	Growth.	Average.	Growth.	Mean.	Growth.
	Ins.	Ins.	Ins.	Ins.	lbs.	lbs.	lbs.	lbs.
10	50·52	—	50·50	—	66·31	—	66·0	—
11	51·52	1·00	51·50	1·00	69·46	3·15	70·0	4·0
12	52·99	1·47	53·50	1·50	73·68	4·22	74·0	4·0
13	55·93	2·94	55·50	2·50	78·27	4·59	78·0	4·0
14	57·76	1·83	58·00	2·50	84·61	6·34	84·0	6·0
15	60·58	2·82	60·50	2·50	96·79	12·18	94·0	10·0
16	62·93	2·35	63·00	2·50	108·70	11·93	106·0	12·0
17	64·45	1·52	64·50	1·50	116·10	7·66	116·0	10·0
18	65·47	1·02	65·50	1·00	123·30	6·97	122·0	6·0
19	66·02	0·55	66·00	0·50	128·40	5·08	128·0	6·0
20	66·31	0·29	66·25	0·25	130·60	2·20	132·0	4·0
21	—	—	—	—	—	—	—	—
22	66·60	0·29	66·50	0·25	135·40	4·81	136·0	4·0
23-30	66·68	0·08	66·50	—	139·00	3·58	138·0	2·0

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Tables: public school boys, naval and military cadets, and university students.

TABLE showing the average and mean height and weight, and the annual rate of increase, of 7709 boys and men, between the ages of ten and thirty years, of the most favoured classes of the English population—public school boys, naval and military cadets, medical and university students :—

Age last Birthday.	Height, without shoes.				Weight, including clothes of 9 lbs.			
	Average.	Growth.	Mean.	Growth.	Average.	Growth.	Mean.	Growth.
	Ins.	Ins.	Ins.	Ins.	lbs.	lbs.	lbs.	lbs.
10	53·40	—	53·00	—	67·4	—	67·0	—
11	54·91	1·51	54·50	1·50	72·9	5·50	73·0	6·0
12	56·97	2·06	56·50	2·00	80·3	7·39	80·0	7·0
13	58·79	1·82	58·50	2·00	88·6	8·27	88·0	8·0
14	61·11	2·32	61·00	2·50	99·2	10·61	98·0	10·0
15	63·47	2·36	63·50	2·50	110·4	11·21	110·0	12·0
16	66·40	2·93	66·50	3·00	128·3	17·92	126·0	16·0
17	67·84	1·46	68·00	1·50	141·0	12·69	140·0	14·0
18	68·29	0·43	68·50	0·50	146·0	4·97	146·0	6·0
19	68·72	0·43	68·75	0·25	148·3	2·20	148·0	2·0
20	69·13	0·41	69·00	0·25	152·0	3·87	150·0	2·0
21	69·16	0·03	—	—	152·3	0·27	152·0	2·0
22	68·93	—	—	—	154·7	2·44	—	—
23	68·53	—	—	—	151·7	—	—	—
24	68·95	—	—	—	149·2	—	—	—
25–30	69·06	—	69·00	—	155·2	0·42	154·0	2·0

8100. Would you tell us from what sources have you derived those tables; have they ever been published?—They have been published. I forget the book that they are published in.

8101. Suppose you turn to the next page, which deals with the proportion of physically and mentally defective children from such causes as nerve deafness (incurable), diseased ears, blindness (myopia, hypermetropia, astigmatism), tubercular glands, tubercular joint or other diseases, rupture, diseased teeth, deformities, general weakness, etc.?—These defective children do not come within my cognisance. I am unable, therefore, even to express an opinion of any value.

Country and urban children.

8102. Are country children physically or mentally superior to urban children?—I do not know of any statistics bearing on these facts, though personally I have no doubt on the matter. I am in process of collecting these facts relating to 1000 boys, recording their place of birth, and of education, whether both have been in town or country, and the result as to their physique and their mental position on coming to school, gauged by measurements, and the 'form' in which they have entered the school. Dr Charles Roberts has shown that, between the ages of ten and twenty, children living in the country exceed those residing in towns by an inch in height, and, in many cases, by 7 lbs. in weight. Bearing on this question, I have had a valuable experience. I am Brigade-Surgeon Lieut.-Colonel to the South Midland Volunteer Infantry Brigade, which comprises about 5000 men. These men form five battalions, and each battalion consists of about 1000 men of ten or twelve companies each. The men are enrolled at from eighteen to nineteen years of age from the various towns and country districts of the counties of Leicester, Worcester, and Warwick. Every year I accompany the Brigadier-General on his inspection of the battalions, and I am astounded at the variety of physique in the different companies. Some companies consist of well-grown, well-nourished, healthy-looking men, while in others they are puny, stunted, ill-nourished, sallow, and unhealthy-looking. In every case, and that year after year, I found that the former were enrolled from country districts, and the latter from large towns, such as Birmingham and Coventry, while the men of those companies that were neither well-grown nor stunted were enrolled from small towns.

Volunteer experience: variety of physique.

8103. Are country children or urban children improving or degenerating?—I have no knowledge beyond the above experience.

8104. Does the work or exercise of country children dispense with the need of systematised exercise for them?—No exercise can dispense with the need of games in the upbringing of the young in securing physique, agility, good fellowship, and brightness of disposition. No nation has excelled our English system of school games, which foster manliness and exterminate effeminacy.

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8105. With reference to England, I suppose?—I was referring only to England, because I have no intimate knowledge of any other country.

Physi... devel... and b... power

8106. Does improved physical development entail improvement in brain power and in acuteness of the faculties?—Without a doubt the development of mind and character, as a rule, is largely dependent upon efficiency of body; neglect of part entails derangement of the whole. Not only the physique, therefore, but the mental calibre of the next generation depends upon the physical education provided for the children of the present.

8107. Do limits as to this exist, particularly at any age?—The only instances I know of are where boys of deficient stamina play too hard and work too hard at the same time, but these are unusual circumstances.

Bearin... moral... develo...

8108. Does improved physical development imply improved moral?—Strength of muscles, beyond all question, tends to produce such vigour of body that it almost ensures force of character and vigour of mind during the process of education. It is the loafer at our schools and in our streets who loses control over his instincts, and corrupts others.

Mor...

8109. Does improved physical development promote morality?—Everything that tends to vigour of body ensures vigour of mind and strength of character. As a special case of this principle I would cite cycling as a mode of physical exercise which, from its nature, has outweighed the value of sermons and admonitions in the promotion of temperance in drink in the rising generation.

Censu... perio... recor...

8110. Is a physical census of children desirable or necessary; in what ought it to consist?—The surest knowledge of children in this respect, and their best protection against injury, is most certainly obtained by a periodical record of their height and weight. This record reveals, more than anything else can, faulty systems of work or play, insufficient sleep, and the advent of incipient disease. Weight-losing, or failure of growth, betrays an unpardonable injury of some kind to the constitution of the child.

Medi... inspe... sugge...

8111. Is inspection of the health of school children by a medical man necessary at present?—Yes, under the present *régime*, and in every grade of schools; though it should not only comprise the inspection of the pupils, but the inspection of the school buildings, the arrangements of work, play, sleep, and food, so that overcrowding, over-working, under-feeding, and imperfect sanitary arrangements would be impossible. But I desire to point out, on the other hand, that the inspection of the health of school children would be wholly unnecessary did they have their due during school life. What I mean is that they must have sufficient cubic space in the schoolroom, and not 80 to 120 cubic feet; that their work must be arranged not only according to their capacity, but the hours of work must be apportioned also according to their ages; that their hours of sleep must be allotted according to age, and that the needful exercise must be in the form of recreation, such as games, and not merely physical drill and gymnastics. A record of their height and weight is a greater safeguard against wrong being done than any medical inspection that could be devised.

Physi... educa... medic... inspe...

8112. Will it become necessary if physical training be increased and rendered more systematic?—On the contrary, were physical education judiciously carried out, medical inspection would be less necessary, by virtue of the improved general health that would result. I would suggest the substitution of the term physical education for that of physical training, for it is as important in the welfare of the young as mental education.

Girls'... cloth...

8113. Is special clothing required for girls undergoing physical training?—Certainly in all gymnastic

exercises, and also in games entailing much perspiration, though not in such exercise as physical drill.

8114. Can you distinguish the value of the following forms of physical training, namely: Ordinary exercise, ordinary work, walking and running, games, exercises of the trunk and limbs, musical drill, gymnastics, military drill, self-defence, boxing, shooting, swimming. What is their absolute and relative value to children aged from six to twelve, from twelve to fourteen, from fourteen to eighteen?—

(*a*) *Absolute Value*:

Ordinary exercise - -	These are suitable for all ages and both sexes.
Walking and running -	
Games - - - -	
Exercises of the trunk and limbs - - - -	
Musical drill - - -	
Gymnastics - - -	
Ordinary work - -	This is unsuitable for children from the ages of six to twelve.
Military drill - - -	These are suitable for the ages of ten to eighteen, and swimming should be taught to every child.
Swimming - - -	
Self-defence - - -	These are suitable from the ages of fourteen to eighteen.
Boxing - - - -	
Shooting - - -	

(*b*) *Relative Value*:

Games - - - -	These exceed in value all other physical exercises at all ages.
Exercises of the trunk and limbs - - - -	All of these are of untold value in the delicate, the deformed, and those suffering from deficient nutrition.
Gymnastics - - -	These children need systematic training even more than the healthy and robust, if they are to have a chance of developing into strong and healthy manhood.
Military drill - - -	

8115. Do all of those exercises prevent in healthy children eye disease (short-sightedness, astigmatism), joint diseases, spine diseases, tuberculosis?—Their tendency is entirely in that direction.

8116. Do the same exercises produce in weaklings and those predisposed, or do they favour such things as rupture, heart disease, joint and spine disease, tuberculosis, fractures, dislocation, or other injuries, brain and sinus disease in ear cases?—The chief aim in the education of weaklings should be the development of the body at the only stage when it is plastic and capable of response. The vigour generated by appropriate exercise tends to prevent disease of the vital organs, such as the lungs, heart, and brain; renders the system proof against tuberculosis, by increasing the tone of the whole system, and by the growth of muscles which ensues in the limbs renders the limbs less prone to joint disease and fractures, and by increasing the contracting power of the abdominal muscles, makes rupture less likely.

8117. Are exercises required by the present race of children?—Beyond all question exercise is essential for growth and development, if the best is to be obtained for the child. But it must be borne in mind that, in the performance of exercise, energy is expended, and finally exhausted, and that this end arrives sooner in those whose tissues are immature, as they are deficient in 'staying' power by virtue of this fact. The defect in all exercise of the young (except where they are left to themselves), whether mental or physical, is that it usually fails in being insufficiently short and frequent. An hour's drill for a child is cruel, whereas four quarters of an hour at various times are of untold value in their growth and development.

8118. It occurs to me in reading this that there is an ambiguity, as it will be printed in the phrase, 'it 'usually fails in being short and frequent.' Would you approve of altering that into such words as that it usually fails, inasmuch as it is too short and too frequent, or that it is not sufficiently short, and not sufficiently frequent?—Not sufficiently short. The tendency is to give the drill or the exercise all at one time, an hour consecutively, I mean.

School games. 8119. Are games required by the present race of children?—School games are still more required, as they afford recreation as well as exercise, which engenders a brightness and alacrity of disposition, and begets a manliness in boys, and expunges effeminacy from girls as nothing else can.

Gymnastics. 8120. Are gymnastics required by the present race of children?—Gymnastics are essential for the rectification of physical defects in certain children, and they are good for all children where they do not take the place of games. They savour too much of a 'set' lesson to be a real recreation, and are usually performed in a gymnasium, which is too often ill-ventilated. As an adjunct to the playground they are of great value.

Military drill. 8121. Is military drill advantageous to the present race of children?—Next to games, I regard military drill as the most valuable exercise. It affords good sound exercise, is a good developer, is practised out of doors, is a good discipline, commands obedience, and teaches children to act together, without destroying individualism. And after school life is over the pleasures of military drill will induce children to join that excellent institution, the Boys' Brigade, which is doing so much in our towns to keep the young from loitering at street corners. Boys' Brigade.

First aid and ambulance. 8122. To what extent is first aid and ambulance instruction desirable, if at all, in children, and to what extent should it, if desirable, be adapted to their ages, intelligence, and circumstances (*e.g.*, six to fourteen years, and fourteen to eighteen years)?—Unsuitable for children; invaluable for young men and women towards the end of school-life or after the school age.

Self-defence. 8123. Is instruction in self-defence—boxing, shooting—advantageous or otherwise?—Of great advantage from sixteen to eighteen, when under suitable control.

Swimming. 8124. Is instruction in swimming beneficial, and to what extent?—I would have every boy and girl taught swimming, but would postpone it until the age of ten, as young children, as a rule, are rather timid of the water.

Best system. 8125. What is the best system of physical education?—Games are out and out the best physical education for children of all ages; military drill the next; and gymnastics follow, especially when available for wet days.

Physical training out of doors and indoors. 8126. What are the respective merits of physical training as practised (1) out of doors, and (2) within doors?—As children spend so much of their time in ill-ventilated schoolrooms in their mental education, all physical education should take place out of doors, except in wet weather, when means of exercise indoors are preferable.

Schoolrooms. 8127. Are schoolrooms adequate?—The schoolroom can be largely adapted for gymnastics, physical drill, and military drill with very little trouble and expense.

Playgrounds. 8128. Are the playgrounds adequate?—The provision of playgrounds is as essential as schoolrooms for completeness of equipment in education. The great desideratum is a playground adjoining every school, where children, as they rush out of school, can find an immediate place for play, instead of resorting to the streets. A larger playground, in some central position, common to several schools, would be a boon, and would diminish expense.

Playing-fields. 8129. Are special playing-fields necessary?—School playing-fields are necessary in every school, not only for the purpose of physical education, but so that the honour and fairness, which are usually incidental to school games, qualities so much to be desired in the battle of life, may be promoted. Yet in a large proportion of schools the playground is conspicuous by its absence.

8130. You retain the word 'playground' there?—I think the term 'playground' and 'playing-field' is immaterial.

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Gymnasia.

8131. What is desirable in a proper gymnasium? Are any precautions needful in gymnasia?—Small gymnastic arrangements could be readily provided in the playground, such as one sees in villages in this country, and on the Continent. Large gymnasia could be arranged, common to several schools, to be utilised by the various schools on certain days, and at stated hours. Here instruction could be given by a competent and judicious instructor, and injury prevented by seeing that children do not undertake exercises beyond their capacity. Padded floors, or mattresses, may also be requisite.

Swimming-bath: desiderata.

8132. The desiderata of a proper swimming bath?—The desiderata for a swimming bath for children are:—(*a*) That the depth of water should be graduated by a sloping bottom. (*b*) That the water should be warmed so as not to be below 65° F., or above 70° F. (*c*) That the incoming warm water should find entrance at the bottom of the shallow end of the bath where the youngsters enter the water. (*d*) That the bath should be open at a certain time of day for beginners alone. (*e*) That a responsible person should be in charge of the bath to prevent bully-ragging, and in case of mis-adventure.

Precautions.

8133. Are any precautions specially needful in a swimming bath?—(*a*) The hot water should not enter the bath at the surface of the water where, owing to its being specifically lighter, it floats like oil, and heats the building instead of the water. (*b*) Too many children should not be allowed in the water at the same time. (*c*) No child should be permitted to be in the water for more than ten minutes. (*d*) The bath should be closed for at least an hour after meals.

Girls: physical training.

8134. In what should the physical training of girls consist?—The physical education of girls should be as thoroughly arranged as that for boys; in fact, it is of greater importance for girls than for boys owing to their more rapid growth, and their less stable nervous system. The necessity of being physically strong should be instilled into the minds of girls from their earliest years, and that it can only be obtained during their years of growth. This physical education not only involves muscular development, but is certain, at the same time, to produce a vigorous nervous tissue, and brain capacity; and, above all, that strength of character which is so fine a trait in women. For strength tends to develop courage and self-reliance; while bodily weakness is apt to produce timidity, with all its inherent pitfalls. Up to the age of puberty the same exercise should be common to both sexes; while after that age the games of girls should gradually merge into exercise of a quieter character. Up to this age, too, I think much good would be gained, and much expense saved, by educating boys and girls together. It should be remembered in organising the games of elder girls that there is a difference physically between girls and boys; and that exercise and games should, in every instance, be adapted and regulated accordingly. Their clothing should be appropriate to their exercise.

Girls: games.

8135. What exercises and games are best adapted for girls?—Walking, running, skipping, swinging, jumping, dancing, gymnastics, physical drill (such as the Swedish system), military drill, riding, swimming, skating, cycling, rowing, football (up to twelve years), cricket, racquets, fives, tennis, ping-pong, la crosse, golf, hockey, ringoal, croquet, baseball, battledoor and shuttlecock, gardening, natural history excursions, music.

Games.

8136. Are any particular games (*e.g.*, football) injurious to boys or to girls?—I know of none. It is said that football is a dangerous game. Played amongst children this is not so. At the home of football I have fewer accidents from this game than from cricket. Where, however, it is played by men it is sometimes dangerous; though where the number of players is concerned, as well as the number of games, the percentage of accidents is comparatively trifling. It is also said that football is answerable for a large proportion of the cases of perityphlitis (appendicitis). This, again, is untrue. In thirty-one years I have had nineteen cases of this disease; and I have had only one death.

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8137. What is a just proportion of time to be devoted to physical training in relation to study?—A just proportion, and not an exorbitant demand, of time devoted to physical education would be a maximum of two hours a day, and not always all at one time; and a minimum of one hour a day.

Proportion of time.

Daily exercise.

8138. Is physical training most advantageous if carried out daily, or frequently, in connection with school work?—It is most advantageous when carried out daily. Work is far better done when provision is made for daily exercise.

Militar drill.

8139. Should military drill be carried out in periodic classes, or daily?—Military drill should be performed every other day, and so arranged as not to interfere with games.

Dietary.

8140. Does the instruction of children in physical training require an improved dietary?—There can be no question that children can exist, when doing no mental or physical work, on a bare subsistence diet. But the same experience is true in the case of children, as has been proved over and over again in the periods of famine in India, that a bare subsistence diet becomes a starvation diet when mental or bodily work is added. It should never be forgotten, especially in the case of children who have to grow as well as live, that *ex nihilo nihil fit*.

Food: position parents.

8141. If physical education is introduced into schools, will any special provision require to be made in respect to diet?—This must depend entirely upon the position of the parents of the children concerned, whether they are able to adequately feed them or only afford them a bare subsistence diet.

Dietary suggest

8142. If an improved dietary be required, can any suggestions be made as to how to carry it into effect?—I have insufficient experience on this question to make a suggestion; but I would like to be permitted to say, with all the force I can command, that any supplementary food supplied by public authority should be in the form of such a food as porridge and raw milk, and not in that of soups, still less in those fashionable concentrated meat juices, which are stimulants rather than foods, and which, although they have their uses, are as injurious to the child as dram drinking. There are few children's foods which exceed in nutritive value those of porridge and uncooked milk.

Physica educati athletic results experie

8143. What are the results of experience regarding physical training, athletics, etc., in secondary schools and universities?—(*a*) My experience of physical education and athletics—in the first class preparatory schools, where boys are educated from nine to thirteen years of age, and in public schools where the range is from thirteen to nineteen years—is that they are of the greatest value. The only fault I have to find with them is that they are too often most-inefficiently organised, whereas they should be as thoroughly organised as the mental education. The physical education of the young tends to training in perception and judgment, as well as in adroitness and courage. Even yet the influence of physical education on mental development and moral growth is not sufficiently recognised even in these schools; and the law is not yet practically regarded, that mental and bodily culture must be concurrent if the highest development is to be attained. I regard no question in the training of the young of more general importance than the mode of occupying 'out-of-school' hours. If children are not as fully and wisely occupied in that time as during the hours of work, moral discipline must be absent. If the young do not take regular and vigorous exercise, no sound health can result. Unless every care is bestowed to make the freedom from work a time of cheerful recreation and constant bodily occupation, every hour becomes a time of weariness and idle lounging: no guarantee for conduct exists, and the character and tone of the pupils must deteriorate. (*b*) I have no experience of the effect of physical education and athletics at the Universities. What is termed athleticism certainly does not, and cannot, exist in our

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public schools at the present time. There is no opportunity for it.

Let us analyse what is the custom in these schools.—In the spring term occasionally football is played; but the main exercises are running and hockey and boating, where boating is able to take place, which occupy an hour to an hour and a quarter three times, and sometimes four times, a week. Time is also spent at workshops. In the summer term cricket is played for about two hours three, and occasionally four, times a week. Some boys are also able to go on 'ends' in the evening, bowling and batting pitches. Also considerable time is devoted to swimming. In the winter term football is played at most four, and usually, three, days a week, for an hour or an hour and a quarter. In addition to those *pièces de resistance*, there are opportunities afforded for a certain proportion of the boys to join in cycling, fives, racquets, hockey, rifle corps drill, rifle shooting, swimming, and the gymnasium. The faults I have to find with the system are the monotony of the games, when there might be a much greater variety to supply every bent if efficiently organised. Some boys can no more play at cricket than they can write a poem. And that facilities are not afforded for some form of physical education on every day of the week.

8145. Is it ever found to be adverse to the intellectual development or progress of the scholars?—Beyond all doubt athleticism is occasionally adverse to the intellectual development and progress of the scholars, as in the case of the head of the eleven, or the fifteen, where all thought is bestowed upon these positions; but this is so rare as to be unworthy of consideration when it is weighed against the enormous amount of good school games have affected in our English school education. The physical education, as exemplified in school games, even in the thirty-one years over which my experience extends, has completely altered the tone and character of English schoolboys. These games have diminished bullying, and a 'fight' is all but unknown, because boys are legitimately occupied in out-of-school hours at exercise by which they can let off the steam. Further, school games furnish a healthy topic of conversation, which is such an estimable help in the formation of character.

8146. The last question is, is there any fear of it becoming so?—What I want to see is a master told off to organise every variety of game for every taste of every boy, so that none may be unoccupied in out-of-school hours; but that all may have recreation in which they can take a keen interest, follow their own bent under guidance, and become experts. The sum of the whole matter is that the organisation of physical education should be as carefully arranged as that of mental education at school. The physique of the next generation depends mainly upon the physical education provided for the children of the present. Moreover, if children are to be happy in mind and healthy in body at school, they must play as well as work.

8147. One or two explanatory questions. I presume from the tone of your *précis* that you have not the position of regulating or organising the physical education of Rugby School?—Not the slightest; I have no voice in the matter in any way, except personal influence casually thrown out.

8148. Then what is done at Rugby in the way of physical education; is it what you mention after the words, 'Let us analyse what is the custom of these 'schools.' Do the following three paragraphs comprehend fairly what is done in the Rugby School?—And in all English public schools.

8149. I gather also you do not quite approve of it; you do not think that it is sufficiently organised to be anything like perfect?—I do not think enough good is got out of the games as might be.

8150. Turning to the first page, do you think that Mr Cecil Hawkins' observations would be of great value to this Commission?—I think they would; he certainly knows more about it than anybody else.

8151. And do you know the points to which he has chiefly directed attention?—He has taken all the measurements that you ask for, though I cannot tell you how many others, for a great many years.

8152. Height, weight chest girth, muscular development, and head measurement?—Yes, I believe everything.

8153. Has he been all the time at Haileybury?—I think so; a great many years, I know.

Country children: ordinary occupation.

8154. In the next page, under heading 'ordinary 'work,' I suppose we understand that the question and the answer there refer to ordinary occupations, as of country children, which you consider to be unsuitable for children of the ages of six and twelve, such as assisting their parents in country work, farm work and so forth?—I think there may be some out-of-door occupations in country districts that would not hurt the children—going errands and doing little things about the farm out of doors. I think that is rather good for them than otherwise.

8155. But you do not consider it capable of replacing a properly-organised physical education?—I do not.

Games v. physical exercises.

8156. And in regard to games, the whole of your evidence bears out that you attach a very great value to games in contra-distinction to physical exercises, physical drill and military drill?—Yes.

8157. You think that games, properly organised, fulfil most of the needs of scholars?—Yes, certainly. You see, drill is a set lesson; there is no recreation. Well, I will not say there is no recreation resulting, because there is a good deal of pleasure obtained, but nothing like the freedom that is got out of games.

Drill and exercises in poor urban districts.

8158. I suppose, however, that dealing with schools in very poor urban districts, where games cannot be organised in this way, you would recognise that there is a field for physical education that might be filled up by proper drill and exercises which could never be reached by games?—Quite so; the greatest field for it.

Gymnastic apparatus in country villages.

8159. Could you indicate to us what the smaller gymnastic arrangements are that exist in the villages in this country and on the Continent, and which you think advantageous?—You see the giant stride, the parallel-bars, the see-saw, swings and trapezes, put up in fields in country districts; while on the Continent a really good out-door gymnasium is provided for elementary schools.

8160. And these are what you refer to when you say small gymnastics?—Yes, these are what I referred to.

Swimming-bath: desiderata.

8161. You say that the incoming warm water should enter at the shallow end; is there not a risk that if that were adopted as a principle for the replacing of the water, that the children who could not swim might be washed into the deeper end?—The heated water flows in very, very slowly, so that is impossible.

8162. But where a current existed, as in a rapidly-flowing river, you would approve of reversing that so as to avoid that peril?—Oh, certainly; but where the arrangements are made for heating the bath from the two plans, one with hot water pipes under the water—steam pipes, I suppose—and the other where the water passes through the boiler and out into the bath again, the circulation is exceedingly slow.

8163. I infer, also, that you would approve of there being inserted amongst desiderata for a swimming bath means of properly renewing, and frequently renewing, the water. You have not mentioned it, but I presume you would approve it?—Yes, certainly; the tendency is to leave the water in too long, because of the expense of heating and the expense of buying the water.

Boys and girls.

8164. Then you say, 'Up to this age, too (that is, 'puberty), I think much good would be occasioned, 'and much expense saved, by educating a boy and 'girl together.' Does that statement refer to physical education or to general education?—Both.

Saturday holiday: teachers and children.

8165. Regarding the question of a Saturday holiday being a necessity for children, what is your opinion; that it is, or that it is not?—For the teachers, I think it is a very great boon; for the children, I think they

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would be much better if they had their morning's work, if they get some time every day for recreation; but where they do not get applied time every day for games, I think it is the very greatest boon, and is their great safety.

8166. Would you, in the case of girls, approve of their being instructed by women rather than by men in their physical education?—I think that is a question that is immaterial.

8167. *By Mr Alston.*—Your experience has been entirely with the English public schools, such as Rugby; you seem to have conceived a school in which all these things could be done?—You mean that I have taken my example from the highest schools instead of the lowest.

8168. Or rather from a first-class English public school. As we are going to deal largely with Board Schools—having all types of children—could you suggest any way by which all those very manifest advantages which you have sketched out could be applied without enormous expense?—I am unable to.

8169. I think, while we quite agree with the suggestions that you have made, the difficulty is that they would be applicable only to some very first-class schools, or, at any rate, to those under well-to-do School Boards?—Yes.

8170. Do you refer to the normal child?—Yes.

Normal and abnormal.

8171. Of course, those that are not normal would require to be dealt with differently?—Yes; too often the abnormal child is considered abnormal, and no trouble is taken to make that abnormal child normal, and that is why I think if the height and weight were taken of all children, care and trouble would be taken to make these abnormal, delicate, unhealthy children, into normally good citizens, which I think the majority of them are capable of.

8172. The same remark would apply to the other section?—Yes.

Gymnastics.

8173. Then you refer to gymnastics; that is applied gymnastics with apparatus?—Yes.

8174. Would you have that regularly and always under proper supervision?—No, not unless you had all the apparatus incidental to a large gymnasium. Where I referred to villages where they have these smaller gymnasia out in the fields—the trapeze, the swing, parallel bars, and so on—I do not think it is necessary at all. You see they have got their field.

8175. Would you let the children, boy or girl, do anything with apparatus?—Yes.

8176. You think there would be no harm?—I do not think so; I see them playing about in those fields as it is.

Games.

8177. In advocating games as the most advantageous thing for the improvement of the young, it may not always mean regular school games under supervision or under direction?—No, I do not think so, except to organise them; except for a few boys, a large proportion—a very large proportion—will not start on their games themselves.

8178. Then the organising would be the introduction of games suited to the various classes of boys?—Yes.

8179. Then you would allow them to play themselves afterwards?—Oh; assuredly. It simply wants a master or some one to see that they do play.

8180. And the more play the better for every boy and girl?—Undoubtedly. The mental education is organised, and a boy has to give an account of what he is doing in school hours; but not the same trouble is taken to see what he is doing during out of school hours.

Athletics and gymnastics.

8181. Then I think you refer to athletics; what do you mean by athletics as distinguished from gymnastics?—Gymnastics I took, and what I understand by that is exercise with gymnastic apparatus.

8182. Yes?—Athletics and physical drill may be both carried out without any gymnastic apparatus.

Physical drill and athletics.

8183. How would you distinguish between physical drill and athletics?—Physical drill is generally a standing exercise with all manners of movements of arms and legs, and stooping and bowing, every position under the sun—physical drill.

8184. Then would you take precautionary measures to prevent excess of athleticism in the schools?—I cannot recognise its existence; I have lived where it is supposed to be overdone, but I have never seen it.

8185. Over-running?—Oh, there you enter into another question.

Over c... prevent... organi...

8186. Over-cycling in cases?—Yes, I should think that might be possible, but I rather think running and exercise of that character should be organised exactly the same as a lesson is, that it should not take place too long or too frequently, and that exercise, as I have said here, in my evidence, should be according to the age of the boy. For instance, when I went to Rugby, the boys of thirteen, when they entered the school, had to go the same runs as boys of nineteen, the same distances, the same pace. I have seen the big fellows with a comforter round the neck of the little fellows dragging them along. I have seen the little fellow lying on the grass vomiting, with being overdone. Well, it took me about twenty-five years to get that altered, so that every boy should run according to his capacity. When a boy enters now, he is only allowed to run three miles, and to take an hour to do it. Well, I was laughed at when I asked for that. It was said, 'the boy can walk it.' 'Yes, I know the 'boy can walk it, but he cannot run it, and until a boy 'has really learned to run he cannot run the three 'miles in less than an hour, because he will run for 100 'yards, and he will walk for 200. During the time 'he is walking the 200 yards, he will lounge along at 'about one mile an hour, so that it takes him really 'his hour to do his three miles' run.' Then boys at fifteen have got their five miles' run, and the boy who has been captain of the three miles' run has to certify that the boy who goes for the five miles' run is capable of doing it. Then we have another seven miles' run, and we have lastly another one which is thirteen miles, and only five or six of the very best boys enter for that.

8187. That seems to show that athletics of that kind should be under medical supervision?—I do not think so; ours are not under medical supervision.

8188. But you yourself brought your medical knowledge to bear upon the excessive use of it?—I only asked gentlemen to use their common sense and not insist upon boys of thirteen, who had never run before, being made to run the same number of miles as a boy of nineteen, because of its evil consequences.

8189. Then all these athletics being carefully conducted, you quite approve of their full application, and the champion should come out at the top?—Certainly.

8190. *By Sir Henry Craik.*—You have had large experience in public schools?—Yes.

8191. You have visited, I suppose, to a certain extent, the ordinary State-aided schools?—No; I have seen what used to be called the ordinary National school which exists in our villages; and the voluntary schools, and some of the Board Schools, I know something about them, and I know the masters, and, being interested in the subject, I have asked a great many questions.

8192. You have, at all events, a considerable general knowledge?—I have common knowledge.

8193. You speak about the cubic space that should be required in these schools not being limited to 120 cubic feet; it ought to be larger?—Yes.

Accommo... tion: li...

8194. What would you put as the limit for the individual child?—Well, if I were to put what I like, I should ask for 400 feet; but that I could not get.

8195. Have you compared the finer Board Schools with some of our high-class public schools?—Yes, and the Board Schools would be superior.

Playgrou... expense.

8196. I quite agree with you; I expected you to answer so. What is the comparison with what you estimate would be the expense of providing playgrounds such as you contemplate in your evidence speaking of these expensive Board Schools? The playgrounds would bear a very small proportion?—Very, very; it has simply never been thought of.

8197. It would add very little to the expense?—Very.

8198. And comparing the two sets of schools, your experience points to this, that the higher-class school has been able to turn out more healthy boys from inferior class-rooms because they had large playgrounds, whereas your superior class-rooms in the expensive Board Schools have not done so because they have had no playground?—Quite so; there can be no doubt about that question.

8199. There is no doubt the lower school at Eton would not be passed by any of His Majesty's Inspectors?—I am sure of it.

8200. But the playgrounds in Eton are considerably superior to what we can afford?—Yes.

8201. If we are to improve the position of scholars in these lower schools, we ought to spend a little more upon playgrounds, and perhaps be a little more economical on buildings?—Yes, I would spend a little more on playgrounds without being a little more economical on buildings.

8202. The increase in the playgrounds would not be so large an increase compared with the great expense that is incurred?—Very small, I am sure.

8203. *By the Hon. Thomas Cochrane.*—In some schools it is practically impossible to get playgrounds such as a Board School that we inspected over Westminster to-day, and in those schools where you cannot get playgrounds you would still anticipate benefit from organised physical training?—Oh, great; but even then I think that if the thing were thought of when the schools were built, the playground in nine times out of ten could be managed; and I think, where you speak of a school like that, you might probably get a playground at the very top of the school of a flat roof. I do not think there is great difficulty; if the difficulty is only faced it melts away.

8204. First and foremost, you place, then, outdoor exercises, and certainly some form of physical training.

8205. *By the Chairman.*—You say that you have no experience whatever of defective children. That is rather a large statement. Do you really mean it absolutely as it stands?—No, probably not; not exactly.

8206. Would you mind explaining it a little, or telling us, in some sort of way, what experience you have had of children who have not been quite up to the mark? You must have known a great many who were not?—Oh, one sees every type, the chief type that is where they are not quite up to the mark—deficient in physique and in stamina.

8207. You will state to the Commission that you have frequently come across defective children?—The defective children that I come across really are those who are defective in tone, wanting in vigour rather than in being physically incapacitated.

8208. But what about eyesight—defective eyesight? If you ask me a year hence; I am getting out that fact too; it is a very small proportion amongst the class of which I have experience.

8209. And do you think, on that account, that that is a good sign, a sign of health not only in the children but in their parents?—I do not think it is material to health.

8210. Or have you no opinion on that point?—It is a defect which has little to do with health.

8211. You would not classify defective eyesight as either good, bad, or indifferent?—No, I think where the eyesight goes wrong in children, and where you get it in the poorer class, is where they are taught earlier than our children are.

8212. Then as to food, have you any special knowledge? You mentioned porridge, and so on. Are you acquainted with porridge *yourself*; have you ever cooked it?—No, never.

8213. Do you know how long it takes to cook?—It is said to take some hours.

8214. I may put it to you; I may say that it does take a considerable time to get anything like good porridge, therefore is it practicable, your recommending that.—I think so, quite.

8215. That there is time to cook the porridge?—They told me, when I tried to get porridge for Rugby, that it could not be done, because it took such a long time to cook, but they have porridge every morning, because it is put in soak the night before, and then it takes fifteen or twenty minutes to cook in the morning, so they do get it.

Soup.

8216. Do they like it?—All I wanted to impress was that soup should not be regarded as a real food for children.

8217. Were you talking of children at a high-class school, or children in the poor localities, who have had to walk some distance to get to their school?—That is what I was thinking of.

8218. You really suggest soup is not a good thing for children who have perhaps walked two and a half miles, and have to walk back the same distance in the evening?—No, I do not mean that; I think it is a good food, but I do not think it is nearly such good food as porridge and milk, bread and milk, or bread and butter and milk; nothing like it.

8219. In the middle of the day?—No; all soups and beef teas are far more a stimulant than they are a food.

8220. You mentioned something about Loretto just now; have you any knowledge of Loretto?—I do not know Loretto; I only know Dr Almond by correspondence, but I do know that he is one of the greatest schoolmasters in the country, and I know that he organised his games in such a way that, whereas he has only got 120 boys, he has the whole of those boys playing at football in one afternoon, and if you go to any other public school you will not find half of the school playing, not half.

8221. Is that so at Rugby?—Yes.

Football: amount at Rugby.

8222. Take football, ordinary Rugby football. What would you say is the average amount of football per week played by boys?—At Rugby?

8223. Yes, the average?—They play three afternoons a week for about one hour, or one hour and a quarter, or an hour and ten minutes.

8224. That would be often enough for a good Rugby game?—Yes; that is all they can play.

8225. Not on other days?—No.

8226. Rugby has a great deal less than Eton has?—They have no half-holiday three times a week.

8227. Do you know that at Eton they play between twelve and two every day at football?—I do not know that.

8228. That is only in the autumn; there is no football in the spring.—That is too much; the boys get exhausted playing it every day.

8229. It has got to be done?—Well, a large proportion of the boys do get exhausted, at all events.

8230. Do you not think that in games—this is a question that has been put to other witnesses before you came here—there is a tendency that those who are stronger get most of the chestnuts, and the others who are weaker go to the wall?—There is no question about it.

Games: strong and weak.

8231. In advocating games as physical exercises, do you not think that you are rather advocating physical training for the few, as against possibly the many?—Not when it is properly organised. It is a master's duty to see that his boys play, and that every boy plays, as much as it is to see that every boy works. Unless that is done, simply the weak go to the wall, and the few monopolise the whole of the playing fields.

8232. I should have thought—I have not had the pleasure of playing Rugby football for a considerable number of years—but I should have thought that in that game especially the stronger got all the opportunities of the game and the small boys did not play?—That is why I say the boys should be made to play.

8233. You cannot make little boys play the Rugby game if there are big boys there?—I am always advocating that the little boys shall have games for themselves. That is just what Dr Almond of Loretto does; he has on his playing fields 120 boys; there are four different lots of football going on on a half-holiday.

8234. And how are they graded—according to age.

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according to the standard of the school, or how?—According to size.

8235. According to size in the school, not according to class or not according to age?—No.

Grading of boys for games.

8236. Absolutely according to size?—I will not say absolutely.

8237. This is at Loretto, do you say, or is it at Rugby too?—Yes; well, it is at most schools; they grade them, not according to their position in the school, but according to their size.

8238. You say it is so at Rugby now?—Yes.

8239. How many boys are there there?—575.

8240. Are they in one school or are they in different houses, or both?—They are in different houses—nine boarding-houses.

8241. And a schoolhouse is one of them?—That is one of them; yes.

8242. I should rather like some information about that; how do you grade them in that way, according to size out of all these different houses?—They play according to the houses.

8243. Quite so?—And the first thirty will play in one set, and then the smaller boys remaining in the house will play with the smaller boys in another house, what are called remnants.

8244. In no grades does the whole house play together?—I think not; I think they used to, but I think that is abolished now, because it was found that the little fellows did get so knocked about when playing with the bigger ones.

8245. I should like to ask you, because we may have to recommend something about it, as to cricket; what happens there?—They have their elevens and their twenty-twos.

8246. That is for the school?—That is for the school.

8247. But as regards each house, I suppose each house plays more or less by itself as a unit or as two units?—Yes, they do sometimes, but they are so continually playing with other houses—all below the eleven and twenty-two of a certain standing will play with the same kind of standing of another house; but they do play as houses too, and the way that is managed is that those who are not in the eleven and twenty-two will have their names put down for a certain afternoon, and some of them will play, and another afternoon others will play, and so on.

Country school children: cricket and football recommended.

8248. So far as you are aware, you would recommend cricket and football for ordinary country school children?—Yes, very much.

8249. As part of their physical education?—Yes.

8250. If it could be done?—Yes, certainly; in country districts there should be no difficulty about it.

8251. That may be; it is not always easy to get a playground even in a country district?—No.

8252. But you would advocate playground as much in the country districts as you would in the towns?—Certainly.

Loafers.

8253. *By Mr Fergusson.*—You say, 'It is the loafer 'at the school and in our streets who loses control over 'his instincts and corrupts others.' In a school where boys live and are always under control, you can deal with the loafer; but with Board School children you see the difficulty?—Yes.

8254. Unless you make some form of physical training compulsory in some way, the loafer will always escape?—Yes.

8255. And because a child is inclined to be a loafer he will not voluntarily submit to any training out of school hours?—That is where the organisation of the teacher should come in, and of course the teacher thinks that he has done his school work when his school duties have ended, but it is not so.

Physical training after fourteen: should be continued.

8256. Fourteen is the limit of the compulsory age—there have been questions raised whether it was not desirable to continue physical training after the age of fourteen?—Yes.

8257. What is your opinion about that; do you think that a great part of the early training is lost if it stops at fourteen?—Yes, I do, but I think if games were properly organised for children when they were young, they would continue them in adolescent age, and in early manhood too.

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8258. If they were given the taste for it in their youth?—If they were given the taste for it, I think it would keep them out of public-houses more than anything else.

Accom tion.

8259. You said in answer to Sir Henry Craik that 400 cubic feet was what you would like to get if you could?—Yes?

8260. But what would you be satisfied with; you are not satisfied with 80 or 120; what do you think might be reasonably given?—I think 200 might be furnished quite easily. I can give you the testimony of one of the best teachers I know in a Board School where there were 120 cubic feet. He said that if he went out of his school for any purpose after the children had been in there for half an hour or three-quarters of an hour, and had to come back again, he simply could not enter the room, the stench was too great.

8261. I am afraid he does not open his windows?—That is part of the reason, no doubt.

8262. As to your recreation for children, we were told by one witness—no less an authority than Sandow—that under his system you had to concentrate your attention and brain upon the muscle you were exercising; well, that means, of course, brain work?—Yes.

Exerci childr brain undesi

8263. In the exercises you would have for children, do you want to have brain work, or do you want to give them something that relieves their brain work for the time?—That is it.

8264. You do not want to give them anything that is a strain on their brain?—It would simply undo the good that was got in young children when they were growing, I am sure.

8265. Then you do not agree with the view that no physical exercises are any use unless they employ some amount of brain work, that the mere doing this sort of thing, unless you are thinking of it, and setting your mind to it, is of no use?—Oh, I do not think so.

Forms physic traini order.

8266. As a medical man you do not think so. Then you say, 'Games are out and out the best physical 'education for children of all ages'; then you put military drill and then gymnastics, but you do not in that include free exercises; gymnastics we understand to be gymnastics with apparatus?—Quite so.

8267. But what about free exercises?—That is what I term physical drill, and what is usually termed physical drill.

8268. You speak of military drill?—Yes, military drill.

8270. You do not include that in your answer you have games, military drill, by which I suppose you mean purely formations, marching in fours, and all that sort of thing?—Yes.

8271. But where do your free exercises come in in that; I want to know in what position you put them; are they better than military drill?—I think they come next to military drill.

8272. Next in front or next after?—Next after.

8273. But the military drill includes extension motions of all kinds, does it not?—That is what I understand by it.

8275. These free exercises are included in the term military drill?—In the term military drill.

Food.

8276. I was interested in what you said about the porridge and milk; on the question of time, I do not know that porridge does not take as long to cook as the soup, but it would be less trouble to make. You will not get many children who would eat porridge and milk in the middle of the day?—They would always eat milk and bread and butter, and it is far better for them than soup.

8277. That you are certain about?—Oh, yes.

8278. When you say soup, do you include soup which is made with meat and vegetables, such as broth, pea-soup, lentil soup?—If you mix it with lentils or peas, that is very good.

8279. Potato soup and rice soup?—Yes, that is very good.

8280. Not clear soup?—Ordinary soup made from meat has no effect at all; a child will starve on it.

8281. Take broth or pea-soup—how does that compare with porridge and milk?—I should say that is very nearly as good as porridge and milk.

8282. Porridge and milk might be given as a variety?—Yes.

8283. And bread and milk?—Bread and milk, yes.

8284. It would be less trouble than soup; it would not take half the preparation?—Yes, and bread and butter and milk too.

8285. Then, as to the games in English public schools; you attribute the diminution of bullying and fighting to the good effect of the physical education of the last thirty years?—I do think so.

8286. Then I suppose it follows from that, if the same sort of training is applied to Board School children, some of the hooliganism might be reduced?—Yes, I am sure it would be.

8287. You think that might be expected to follow?—Yes.

8288. That is what corresponds to the fighting and bullying that used to go on in the public schools?—Yes.

8289. *By Professor Ogston.*—I am anxious to get the points of your evidence as accurate and clear as possible. Dealing with the question of soups, am I correct in assuming that you believe that when meat is cooked into soup by boiling it is only the stimulating salts that are extracted, and that therefore pure soup is of little value?—I think so.

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8290. The albumens and proteids and the nourishing parts are not extracted in ordinary soup?—They are extracted, and they act as stimulants far more than they do as nourishing factors, I think. Food: soup and porridge.

8291. Well, in such diets as porridge and milk, and milk and bread and butter, there is a large proportion of the nourishing constituents, and a smaller proportion of stimulating salts?—That is my belief; yes.

8292. And that the nearer a soup approaches by a mixture to porridge the more valuable it becomes?—Undoubtedly. I think a soup can be made as good as porridge and milk if it is made with lentils and peas, and so on.

8293. Precisely. Another different point is, I think you stated to Sir Henry Craik, that a certain number of the boys in your public schools would turn out for an examination more competent with corresponding lads from Board Schools. I suppose you would like us to understand that if this were more closely looked into, that the rest of the boys that you get, being picked boys, to some extent, would have some influence?—Oh, it would make a great difference.

8294. You would not attribute it entirely to that?—Oh, no.

The witness withdrew.

Col. The Hon. John Scott Napier, C.M.G., examined.

Col. J. S. Napier, C.M.G.

8295. *By the Chairman.*—Would you mind reading from your notes, please?—The question is:—

1. Describe the system, the syllabus, and apparatus?—The system is one of progressive training, so applied as to run no risk of injury to the weakest. In its early stages it principally consists of free gymnastics and elementary work on the horizontal bar, parallel bars, vaulting-horse, and bridge ladder. Rope climbing is also taught. The syllabus and work on the apparatus will be found fully described in Appendix 1 and 2 of the new Infantry Training (provisional) just issued.

2. For what age is the system intended?—The training is applied to recruits on joining, no matter what their age is, and is intended to be kept up during the whole of their first period of service—that is, seven years—it being voluntary for men over thirty years of age.

3. What tests are made, and when?—The instructors, both at depôts and at headquarters of units, classify the recruits from time to time, according to their strength and capabilities. The inspector of gymnasia, assistant inspector of gymnasia, and the superintendents of gymnasia in districts visit these squads from time to time. The standard of efficiency is tested at the end of the first month, at the end of the second month, and at the end of the third month, and the relative tests are enumerated on page 293 of the Infantry Training for 1902. Should the recruit not come up to the standard required, he can be put back for a further course, or he may be discharged the service as unlikely to become an efficient soldier.

4. Are reports available for the use of the Commission?—I would suggest that these reports be called for from the War Office.

5. Describe the average physical progress made?—I found that recruit measurements taken at depôts and at headquarters of regiments were most unreliable and misleading. I would like to explain to the Commissioners that recruits often join at headquarters, and sometimes do not complete the course at the depôt, so, if you take them at half course, the measurements would be misleading; and then, again, if you take the measurements at headquarters, you would find them partially trained at the commencement, and then you would not have a fair test of what the increase was, because the men had already gone through a portion of the course at the depôts. I thought the depôts' books no use, so I did away with them. There are many difficulties to be contended with in a uniform system of taking measurements. It requires an expert with experience to detect the various methods men have of expanding and inflating their chests. A man being measured in summer, after quick work with light dumbbells, will measure an inch and a half more round the chest, and nearly an inch more round the upper arm, than he would were he measured on a cold morning in winter when he first enters a gymnasium. Anybody who has ever worn a ring which is a tight fit in summer will find it will fall off in winter, but the shrinkage does not imply the loss of power. I, however, give below some average increases which may be expected after the first five months' recruit course: Increase, 2½ inches round the chest, 1½ inch round the upper arm, 1 inch round the forearm, and 1½ inch round the calf of the leg. From long experience I have found that a fair average. When the training is applied to a healthy boy who has been well nourished before joining, far better results are often obtained. For instance, I have often known three inches put on to a recruit's chest in the first six months of his service. That cannot be altogether put down to physical training, it no doubt has a good deal to do with a better and more liberal diet—putting on flesh. But physical progress cannot be properly described by measurements alone. The whole frame of the man is straightened and tightened up. What was fat is turned into sinew and muscle. His organs of breathing and digestion are improved. He is taught to move freely, and to apply what strength he has. The general improvement on his appearance and carriage is most marked, and conduces not only to self-respect, but to his efficiency as a soldier. (*See* table p. 330 for example of average increase in twenty-two recruits, Northampton Regiment, after 110 attendances.) They do not quite come up to average, because 110 attendances do not represent five months' training.

6. What are the defects usually shown in recruits, physical and moral?—In dealing with this question we must consider the various circumstances which induces men to accept military service. There are, no doubt, some few recruits who adopt the army as their profession under the influence of patriotism, prompted by the ambition to distinguish themselves in a calling which holds out many inducements to a roving and adventurous disposition. There are others who look forward to sharing in the plums of the service, and perhaps even look forward to the possibility of retiring on the pension of an officer—say £200 a year—before Military service: reason for men joining.

Col. J. S. Napier C.M.G. 13 June '02.

MEASUREMENTS OF CLASS OF 22 RECRUITS.

—	Age	MEASUREMENTS										—
		Height.		Weight.		Chest.		Fore Arm.		Upper Arm.		
		Feet.	Inches.	Stone.	Lbs.	Inches.	Eighth Inches.	Inches.	Eighth Inches.	Inches.	Eighth Inches.	
On commencement	19 1/12	5	4½	9	2	33	4	10	—	10	7	This class put in 110 attendances
On completion .	20 5/12	5	4½	9	8	35	3	10	7	12	1	
Average . . .				—	6	2	1	—	7	1		

they reach the age of 45. I had several examples of that in my own regiment. Opinions will vary as to the proportion of recruits who may be classed under the above heads. After some thirty-five years' experience of the service, I should say that 15 per cent. was a liberal estimate. There are other classes who enter the service because they find themselves unfitted for the steady plodding work required to earn a living in civil life. A fair proportion of these men may no doubt prove useful as soldiers, but I affirm that at least 80 per cent. of our line recruits enlist merely because they are unable, either through physical debility or for want of character, to procure their bread and butter elsewhere. In any case the sickness and crime prevalent in our ranks is conclusive proof that a large majority of our recruits are drawn from the lower grades of our population. Bad blood, irregular and indifferent feeding, foul air, degrading surroundings, all have their part in poisoning the sources from which our army is principally recruited. Under these circumstances military life and military training become an inestimable boon to these poor lads; it offers an asylum, and better, a home, to many an outcast. A certain amount of cleanliness is enforced; regular hours maintained; healthy food provided; physical exercise in the open-air practised; discipline enforced; comparatively luxurious accommodation provided; manly instincts and rivalry encouraged. Who can doubt, under these circumstances, that the army stands in the place of a vast national philanthropic institution, conferring an immense benefit on the people, and fulfilling many obligations which would otherwise have to be met by the local ratepayer. The recruits' physical and moral defects are those with which we, who have any experience of the lower grades of our juvenile population in large manufacturing towns, are all familiar. No better life than military life could be devised to meet these defects. On the other hand, it is a most serious and fatal mistake to lean on this material for the protection and development of our empire.

Recruits: 80 per cent. who have failed in civilian life.

Military training a boon to these.

Physical and moral defects.

Food.

7. What proportion is due to feeding?—You cannot train a man physically on an empty stomach. The more wholesome food he can digest, the greater the physical development will be. For children and growing lads porridge and milk is the best bone and flesh-making food, and I would strongly recommend that this diet be insisted on in all establishments under State-aid or control. What may be called manufactured or concocted or preserved foods are responsible for much of the degeneracy of our present generation.

Physical training: open-air work.

Free Gymnastics.

8. What proportion is due to want of physical training?—The want of healthy, open-air physical exercise has much to account for. I am a great believer in open-air work, especially for children and growing lads from the age of four to twelve. Physical training, however, between these ages, should be almost entirely restricted to free gymnastics, without apparatus or weights.

Suggestions: public cook-houses.

9. How remedied?—Public cook-houses, under District or County Councils, should be established, where wholesome cooked food could be had at approximately cost price, any profits to be applied to the benefit of the poor.

8296. You mean District Councils in England or Scotland?—Well, I have answered it generally both in Scotland and England, and Ireland too. I think in our large manufacturing districts, if cheap dinners could be provided——

8297. Excuse me for a moment, but do you mean not actually District Councils, but collections of people in certain districts, do this, or do you mean Public Health Authorities?—I mean public cook-houses.

8298. Public Health Authorities should have these public cook-houses?—Cook-houses which would be started by Government aid, but which would be self-supporting, and distribute wholesome food to any of the poor who come forward with money to buy it under the system of soup kitchens, where tickets are now issued gratuitously. I think it has often been done, has it not, in different ways?

8299. I only quarrel with the words 'District 'Councils' because it has a specific meaning. If you put public cook-houses in districts that would be better.—Yes, I see. Well, I should make it part and parcel of the Local Government business to see there were cook-houses.

Suggesti

Inspecti f food stu

A far stricter official inspection of food stuffs. Bad bread, bad butter, and bad food-stuffs are sold to the public without any official supervision at all; that is my experience. Public grounds and open spaces, properly adapted to physical exercise. I have known many a mining village where they had not got a bit of ground to play a game of football in. Compulsory physical training in all schools, whether State-aided or voluntary. I do not think you can separate State-aided from voluntary schools, because, if you compel State-aided children to do one thing, their parents will resent exception being made in favour of voluntary schools. You have got to make it compulsory for all. The abolition of the public-house in its present form, and substitution of people's clubs under control of County Councils. The prohibition of smoking for all youths up to the age of eighteen. I speak under correction, but I believe that is carried out in Germany. They do not allow, at least not in Government schools, and they certainly do not allow their recruit boys to smoke. Public douche baths, where all State-aided children are thoroughly washed at least once a week. Of course people laugh at that, but it would be of immense advantage if we had some system for securing the cleanliness of children attending Government schools, anyone who has been into the married quarters, or into low quarters where the children of the poor live, knows that they are very seldom washed, and the foul clothes that are on them are no doubt contagious to other children. I could provide plans for these public kitchens, clubs, and baths, if the matter receives serious consideration.

Compuls physical training in all sc s.

Physical training those ten fourteen fourteen eighteen.

10. What suggestions have you to make as to physical training for those of ages from ten to fourteen, and fourteen to eighteen years?—From ten to fourteen the system now in vogue at the Duke of

York's School and Hibernian Schools should, in my opinion, be compulsorily applied to all State-aided and voluntary schools throughout the United Kingdom, as it would be invidious to draw a distinction between classes. The exercise laid down in Part 1 Military Training, 1902, Sections 43 to 54 inclusive, would meet the requirements of children from ten to fourteen, while those from fourteen to eighteen might, with advantage, receive instruction in exercises laid down in Appendix 2 of Military Training.

11. Describe the average measurements taken of height, weight, chest, arms, and the standard required?—The official standards are all laid down in Appendix 2 of the recruiting regulations, but these are modified from time to time, and exceptions are made when recruiting is bad. I may tell the Commissioners that I have often represented this to the War Office, and they have always explained it away on the fact that they cannot get recruits. They are quite aware that the material they get is bad, but they cannot get any better. I called them 'special specials' on one occasion, and got hauled over the coals for using the expression. They allow a special under one standard, and then they take him special under another, so he is a 'special special.' He is too short and too weak, and too narrow and too light, and he is too everything except the right thing. A note on measurements taken appears under Answer to Question 5. I may add that in my opinion the standards fixed are by no means satisfactory, as they do not represent the physical development required to secure a useful soldier. The standard of age is notoriously disregarded. I have added a remark here that no character is verified. I have seen in the House of Commons that they give out that characters are recorded. It is not the case; there is no character required at all in the line. They take any character—thieves and criminals of every description.

12. What improvement in general health of recruits, and when shown?—I have no statistics in my office as to health, but it goes without saying, that good feeding and regular exercise improves anybody's health.

13. Are gymnastic training and physical exercises preferable to military drill, shooting, etc., for benefiting youth of country, both physically and morally? Give reasons?—I do not understand the comparison implied in this question. Physical training is necessary to enable a man to carry arms and stand the strain of military operations. Drill is essentially a part of a soldier's training. Skill at arms is necessary to the efficiency of the soldier, and has no moral effect one way or the other, unless it is to give the soldier confidence in the presence of the enemy. It may well be argued that both physical training and drill are beneficial, for they tend to self-respect and discipline. I have no detailed information regarding the systems of physical training in schools other than our military schools. In these, free gymnastics are practised under the supervision of the masters, who attend a short course of training at Aldershot. In my opinion, this course is insufficient. At the Duke of York's School and at the Royal Hibernian School there are certified gymnastic instructors, and the results are excellent.

Physical Training in Schools.—1. Describe systems in force within your knowledge and observation; and suggestions as to improvements and alterations?—I would suggest that the system in vogue in these two institutions be extended as far as possible to all Board Schools, and that a staff of instructors for the purpose be trained at Aldershot or Edinburgh. I suggested at the War Office three years ago that we should start an establishment at Aldershot for instructing civilian or army instructors that were to be employed by civilian schools, but they did not take any notice of it. The War Office will not do it at their expense. They cannot do anything towards training civilian instructors at civil schools, they have not got the staff for it.

2. Should there be a uniform system for all?—Yes.

3. Should it be compulsory; if so, within what limits of age and time, and on what conditions?—Yes, as long as the pupil is obliged to attend school under the present law; half an hour daily should be set aside for the purpose, and where the pupils are numerous, classes should be taken separately. I do not think it is absolutely necessary that it should be daily. I think three times a week would be sufficient.

Training of Teachers for Schools.—1. Should men and women be in the same class?—No, men and women should be trained separately—*that is, in separate squads.* But, perhaps, I do not understand the question. They should be trained in separate squads. It is not necessary that they should be trained at separate times. For instance, the same instructor could take two squads, one of women and one of men, and be giving the same instructions to the two classes, but they should be separated, not to be in the same class. Men and women.

2. What is the system at present?—I have never heard that the female teachers in military schools receive any training. I have already stated that military schoolmasters go through a short modified course at Aldershot Gymnasium, which is not sufficient to make them expert.

3. How treated, and by whom?—See above.

A five months' course would represent 140 attendances, at least. Recruits do, or are supposed to do, five months—three at the depôt and two with their headquarters, or the whole five with their headquarters.

The above table was taken haphazard out of our books, and may be accepted as a fair average for the 110 attendances.

I did not look our for a particular squad; I just told the clerk to take out the first he came across.

8300. What do you do with boys or drummers?—We put them through the same course as recruits. Boys or drummers.

8301. When do they go through their gymnastic course; not till they are seventeen or eighteen?—Oh, no; we put them through at once; the little boys fall in and go through just the same course.

8302. As a boy?—As a boy, but they do the same work as ordinary recruits, who often are no older than sixteen years.

8303. Therefore that rather gives one to understand that boys can be worked to the same degree as men are?—That is because our physical training is calculated to meet the very weakest description of men, and there are a number of the recruits who are only sixteen years of age; it is not worth while drawing a distinction. The work required of the recruit at sixteen is of such a mild character that it can be applied to any boy. Physical training in army.

8304. The boys, as a rule, I suppose, would be ten, eleven, or twelve?—I do not think we can take them in under fourteen, but I could not answer that offhand.

8305. About twelve?—About twelve very likely. They could tell you that at the Duke of York's School, 80 or 90 per cent. of whom join the ranks; all go, no matter what their age, through the same course.

8306. And they are none the worse for it?—No; they could not be. What we lay down are mild exercises, too mild in my opinion. You can hardly call them muscular exercises, they are more for setting up, for straightening the body.

8307. After a recruit has had more food and experience of a better life generally, he is able for something a little bit higher?—Yes.

8308. That is where you can take him to something higher?—Yes; we put him into what is called the established gymnasium, which has got apparatus, and we work him over the horse and all that sort of thing; but I find the boys are better than the men as a rule, because you see the men have begun to get wrong, whereas the boys start fresh and we keep them straight. Progressive course.

8309. Had you anything special in your mind when you stated at the end of number 6 that 'it is a most 'serious and fatal mistake to lean on this material for 'the protection and development of our empire'?—Yes, I had.

8310. Was it anything to do with us as regards

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Conscription advocated.

physical training that you would rather have a superior class, a better fed class?—I want a superior class in the army. I have always been strongly in favour of conscription, and I have written for years on the subject. I do not believe in our trusting to what at a shilling a day must necessarily mean waste and stray, I think if we had had conscription in force, instead of sending out bad characters — instead of sending out weedy, ill-conducted, unhealthy boys, we should have the pick of a very large number of healthy recruits of a better class, and that the Volunteers that we send out would be very much more useful, of course, if trained. Although conscription would not apply to foreign service, you would have a great mass of the population trained to arms, and from that mass you would find a great number willing to accept conditions of service either from patriotic motives or for higher pay; but a five-shilling man is little better than a shilling man if he is not trained.

Recruits physically unfit: discharged.

8311. *By Mr Fergusson.*—Do you find any number of these recruits that have to be discharged because they cannot undergo the moderate training you give them?—For physical debility?

8312. Yes?—Well, a great number ought to be discharged. They are not always discharged; but I have been one of the promoters of a scheme, or rather of orders being issued, enabling officers in command at depôts to discharge men who are physically unfit, by holding a Board on them after the first three months' training, if they do not come up to a certain physical standard. They have now the power of getting rid of them which they used not to have, and a great number are so discharged.

System at Duke of York's School.

8313. In answer to the 10th question as to the training of boys from ten to fourteen, and fourteen to eighteen, you recommend that for ten to fourteen the system now in vogue at the Duke of York's School; what course is it; is that the army course?—You see that the Duke of York's School is a Government school, under Government control and discipline, and it is governed by a military man, and the whole institution is under military supervision, and the system is enforced and superintended by a skilled instructor trained by us.

8314. But is it a special course; is it laid down in any book?—No; the course is one that we have adopted for our recruits, really following my recommendation to the Board; you will see they do recruits' exercises.

8315. That is what you call the Model Course?—That, I am sorry to say, I do not know. I do not know anything about schools; I have not made it a study at all—civil schools; but I believe what is called the Model Course is one that has been adopted by the School Board, and the School Board was advised, and assisted, and directed by an old army instructor—Chesterton. He is an old quartermaster-sergeant in my department.

Chesterton's system.

8316. Do you know Chesterton's system?—Yes, I do.

8317. Is that good?—Very good; I think it is rather too complicated; but he is an excellent man; he has more experience of children than I have.

8318. What Chesterton says of the Model Course is that it is not sufficiently progressive for children; you have not knowledge to tell us?—No, I could not tell you. My suggestion that the military recruit course should be applied would meet that — that it is sufficiently progressive.

8319. His view was that there is nothing in the Model Course which is not in Chesterton; but Chesterton has got some other things which make his course suitable for children?—He is a thoroughly trustworthy fellow. I know Chesterton very well; he was my quartermaster-sergeant, and he is a thoroughly sound fellow.

Physical training and smoking.

8320. *By Mr Shaw Stewart.*—You say that you would prohibit smoking for all youths up to the age of eighteen?—Yes.

8321. Do you consider that it very seriously interferes with physical training?—Yes, I do; I am certain of it. All smoking interferes with physical training at any age, but with youths especially, smoking the dirty stumps of cigarettes and cigars that they pick up in the streets, injures their lungs and their digestion. They make themselves sick, and their appetite is spoiled for food; they cannot face their food. Recruits in the ranks, smoking two or three cigarettes in the morning on the march on an empty stomach, will come in utterly unfit to eat a wholesome breakfast; that is my experience.

8322. And if it is bad for the recruits in the Army, it must be still worse for younger boys in the street?—It is very bad for the recruits in the Army, and I do not think it ought to be allowed in the Army, only they are so afraid—they quite admit that—of putting on any restriction whatever for fear of losing recruits; if it were known that recruits were not allowed to smoke in the Army it would certainly have a bad effect on recruiting.

8323. And you think that smoking has such a bad effect on successful physical training that this Commission ought to take notice of it?—I do indeed; I think it is one of the greatest evils that exist, especially cigarette smoking, because they all inhale, whereas with the pipe it is less injurious; but the inhaling of cigarette smoke—vile mixed tobaccos, filled with drugs—is very injurious both to the lungs and to the digestion.

8324. One word with regard to the training that you recommend; at Aldershot or Edinburgh—a staff of instructors for the purpose that should be trained at Aldershot or Edinburgh—do you think that, instead of training Scottish teachers only at Edinburgh, it would answer the purpose equally as well if the Aldershot system were taught at the training schools, so that future teachers could go through it there?—At what training schools?

8325. There are training schools at Edinburgh, Glasgow and Aberdeen?—I do not know anything about these schools. I know that General Chapman tried to introduce a system of his own which had no authority, and our superintendents are not obliged—it would not be fair to ask them to take civilians, because civilians are not under military discipline, and therefore we should have no authority.

8326. My point is this, given certain instructors thoroughly trained on the Aldershot system, would they not be able to impart the Aldershot system of instruction at the training colleges, so as to enable the teachers to go through that course instead of coming to Edinburgh only?—Certainly, if the War Office could be induced to give us sufficient staff to undertake the work; but the staff is already too small for the military work in hand.

8327. The staff at Aldershot?—Our own staff is too small at present to cope with more than military work, and therefore we should not be able to do so unless you got the War Office to allow us a larger staff to train your civilian teachers. If they did that, I should have no objection to undertake the work, as far as I am concerned; but we could not do it on the present staff without seriously interfering with our regular work. They are very hard worked our instructors; they sometimes work six or eight hours a day, and it is very engrossing work; it requires a man's constant attention, and if he drops it at any time the instruction is of no use at all; you have got to keep your man on the work the whole time.

8328. My question referred more to the efficiency of the work. The work would be equally efficiently given at the training colleges by a skilled instructor as it could be given at Edinburgh?—Yes; the further you get from the fountain the less pure the water, you know; and you gradually get an old chap who has done his work very well at Aldershot, who goes up amongst these people, and gets lazy and inefficient; he requires constant supervision; we find that at our outlying stations. I have found a fellow, with a stomach on him that he could not possibly bring up to the bar if you gave him £100. He might have been a beautiful gymnast five years ago. So what I suggested

was to build a school under the Home Office at Aldershot for the training of efficient instructors and school teachers, and to increase our staff sufficiently to enable me to send instructors to schools. Of course expense comes in. The War Office would not build. We could not supervise the work unless it were close to our headquarters. That is why I say Aldershot, simply because we could supervise the work if it were close to our headquarters.

8329. One more question with regard to Edinburgh, if there was an instruction school at Edinburgh?—Yes; we have a superintendent in Scotland, whose headquarters are at Glasgow, but I think it might with advantage be at Edinburgh.

8330. Is his staff quite insufficient to undertake further teaching of civilian teachers?—Insufficient to undertake civilian teachers. They only give us as much as we can prove is absolutely indispensable. For instance, they will not pay an assistant instructor unless we can certify that he has a certain number of pupils; if he has not got these pupils he goes back to his regiment on his ordinary pay, and then when we get more recruits he is called on again; so they only bring up the staff to exactly what is required; we are short-handed already in our regular work.

8331. *By the Hon. Thomas Cochrane.*—On that point I would like to ask you whether it would be sufficient to train the Board School children if their ordinary teachers had a good system of instruction and were then supervised by some skilled and properly-trained person?—Yes, I think that, it would be sufficient for children attending Board Schools, and there is a distinct advantage in the children's own instructors doing it, although I do not say that they would do it quite as well as professionals. However, I admit that there are a great many of these schoolmasters that you never could make instructors out of. It is an advantage in working children that the person drilling them should be able to show in himself the benefit of the work. If you get a fellow with sloping shoulders drooping forward, with bandy legs and turning in his toes, he may talk till he is black in the face to a lot of children about what they are going to gain by it; they will not believe him. They say: 'If we are 'only coming to what you are, the less we do of this 'the better,' whereas, if they have got a smart chap who is well set-up, and they get a smart word of command, they see something in it. A civilian may learn all the thing up in theory, but the action is really taken from the tone and from the manner of the instructor, and you get better results. However, I have known very good civilian instructors. It all depends on whether it is in the man or not. Of course our men are picked. You could not find instructors by taking them out of the ranks haphazard. It is the rarest thing possible to get a good drill in an infantry regiment; there are not more than two or three that are worth a snuff. We get the pick of the army because we can pick them and discard them. We get one hundred and twenty non-commissioned officers every six months, and after the first month's work, if I do not like them I send them back to their corps.

8332. It is a very difficult thing to get really competent instructors?—Yes. Well, I go back to my former suggestion, whether civilians or our own people, we should train them at the fountain-head under our supervision, and send them out with certificates, and then have them periodically inspected by a Departmental officer. I could not do it. I would be very glad to oblige in starting the thing, and to assist in any way I could, but I could not possibly undertake—nor could the Department undertake—to supervise the training of the whole civilian juvenile population of the country as well as that of the army.

8333. Could you give some little explanation of this table; I do not quite understand it?—Yes, certainly I can explain it.

8334. I see the age when they joined; the average age was a month short of twenty years, and on completion it was twenty years and six months. That appears to have been a course of seven months?—I see what you mean, and yet we only say 110 attendances. That is because they have broken the course, and therefore, although they have only put in 110 attendances, they have gone. As to their recorded ages, you can arrive at nothing, for calling a lad of sixteen to eighteen, on joining, upsets averages. Of course, it is an average; a great number of them may have been much younger, but then they declare themselves eighteen when they are only sixteen or seventeen; you cannot go on the declared age.

8336. I see they do not grow during the course of these seven months?—Not in height.

8337. That is rather unusual if they were recruits?—Yes, but you will see in the early part of my Report that I do not lay any stress on these measurements. If you want a very accurate table of measurement, I would undertake to prepare one under my own supervision, but I find, as a rule, the ordinary records are so unreliable that I have discontinued the practice at depôts and modified gymnasia.

8338. I think it would be very interesting?—I would begin a squad, and get the military authorities to leave it under my own supervision, and keep them steadily at it for six months.

8339. *By the Chairman.*—If you could do it within the next six months without any inconvenience to you?—Not to me, if the service will only leave them with me; but during this war it has been absolutely impossible to carry on any system. They take the men away before they have been through the recruits' course—blank firing.

Supply of instructors.

8340. *By Sir Henry Craik.*—Could you, from the gymnasium at Aldershot or at Maryhill, supply instructors, provided the expenses were met?—We could only supply those who were discharged. We could not send away men at Aldershot who are required for military purposes.

8341. No; but surely there must be a large number of men who have gone through Aldershot who would be ready to take such employment?—If they were allowed to buy their discharges, or if the authorities allowed you to take them; but then they would be taken off the strength of the regiment, and the regiment would have to do without them until others were trained.

Inducement.

8342. But as a means of offering a new inducement to joining the army, would it not be a very valuable thing that there should be an opportunity of gaining such employment?—I said that to my class of non-commissioned officers the other day; I said, 'There is 'a wonderful market opening up to you fellows, be-'cause very soon this system will be compulsory all 'through the civil schools, and you will certainly get 'employment after leaving the service, I have no 'doubt'; but if you took them away whilst they are in the service, the drain would be so severe that we should not be able to keep pace with it. Our establishment now is only regulated to find the service with a sufficient number of instructors for military training.

8343. Is it not one great inducement that you are anxious to hold out to men joining the service that there should be opportunities of employment open to them?—Yes.

8344. If, as in Scotland, there were opportunities of having classes for training teachers under such instructors?—A great inducement.

8345. That is now the case in Scotland?—A great inducement.

Physical training in State-aided schools: military staff insufficient to instruct teachers and supervise work.

I should like to add the following remarks:—It appears from the general drift of the questions set me that there is an idea that it may be possible to utilise the present Army Gymnastic Department to instruct civilian school teachers and to supervise their work. I must at once say *no* to this. In the first instance, many of our non-commissioned officers, although excellent drill and gymnastic instructors (when employed in recruit training and under the hand of discipline) are not fitted, either by nature or by training, to deal with small children and the civil element they would be

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brought in contact with. Some, no doubt, are, but they are required for their military duties, and cannot be spared except in exceptional instances. The practice of allowing men who are engaged and paid for one work to accept other paid jobs out of time is open to many abuses, and should be carefully guarded. I like my non-commissioned officers to add to their scanty pay when it can be done without injury to their service work; but the work, which is very exacting, leaves little time or energy. In short, although I consider it would be very unfair to lay down a hard and fast rule that our instructors should never be allowed to take outside work, the conditions are such as to make it quite impossible for them to supervise the physical training in State-aided schools.

Suggestions.

To meet this want my suggestions may be summed up as follows:—Home Office to be placed in communication with the War Office. A school or college of physical training to be erected under my planning and supervision on the north side of the army athletic ground at Aldershot, within 200 yards of my headquarters and our principal school of military training. Estimated cost (outside), £10,000.

The staff at this college to be selected and salaries fixed by the inspector of gymnasia. All Government school teachers who wish to qualify might be trained here, and if found efficient would receive a certificate. These civilians could be supplemented by selected and specially trained non-commissioned officers who had completed their first term of service, and had done good work on the gymnastic staff.

Col. J. S. Na... C.M.
13 June
College physica... training Alders...
Staff: certifica... &c.

The witness withdrew.

Adjourned.

SEVENTEENTH DAY.

Tuesday, 17th June 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr M. H. SHAW STEWART, M.P.
Sir THOMAS GLEN COATS, Bart.	Mr J. C. ALSTON.
Sir HENRY CRAIK, K.C.B.	Mr J. B. FERGUSSON.

Mr R. B. PEARSON, *Secretary.*

Major W. Elliot.
17 June '02.

Major W. ELLIOT, examined.

8346. *By the Chairman.*—Would you describe yourself?—Late Honorary Secretary of the Lads' Drill Association.

Elementary schools: physical training course advised.

8347. I will ask you to read out your notes, please?—The aim of our country should be that every boy in the elementary schools should undergo a sound and systematic course of physical training; this training should be continued after leaving school, combined with more advanced military drill, rifle shooting, etc. In order that the physical training at elementary schools should be systematic and productive of the greatest good, it is necessary that the course should be carefully compiled by experts. Many forms of so-called physical exercises, though making a pretty display, when carried out do little towards the development of the body, the true objective of physical training. This course should embody the rudiments of military drill; this is essential to ensure that the different exercises are carried out with precision and smartness, without which the best results cannot be obtained. Moreover, military drill inculcates the habit of obedience and discipline, so necessary in the education of children. Such a course —the 'Model Course of Physical Training'—has been published by the Board of Education, based on the system of physical training in use in the army, which has proved of such inestimable value in developing our recruits. This course should be compulsory in all schools. This is important, as the teachers would then know what they were expected to teach, and the school inspectors what they had to inspect. Moreover, there would be no danger of the more showy but less effective forms of physical exercises being substituted. There would be no objection to any addition being made to the course either in the direction of more advanced physical training or military exercises. But however excellent the course may be, the full benefits will not accrue to the children unless the teachers are fully qualified to carry it out. In many schools the services of a retired N.C.O. are obtained to give instruction in physical training. Though this may be necessary in certain cases, I personally am opposed to the system, and think it far preferable that the actual instruction should be carried out by the school teacher. As I have noted before, one of the great benefits derived from a proper system of physical training combined with military drill is the inculcation of habits of obedience and discipline in the children, and the person to inculcate such habits should be the school teacher; the good effect would be noticeable in the other branches of instruction he carries out. Moreover, if the teacher himself carried out the instruction, he would take a personal interest in the question, and he would more fully recognise the importance of the physical development of his pupils—an important point. There would, however, be no objection to employing a retired N.C.O. to supervise the instruction in the various schools of a district. In order that the teachers should themselves be taught to impart proper instruction in this subject, all studying at the different training colleges should go through a course of physical training, and the possession of a certificate of fitness to instruct in this subject should be compulsory for all Board teachers. Classes at the different regimental depôts might be formed for those who are at present teachers. The sergeant instructor of gymnasia could carry out the instruction

Model course.

Compulsion.

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under the supervision of the district inspector of gymnasia. With regard to the future training in more advanced military drill and rifle shooting of lads who have left the elementary schools, it must be remembered that there is no compulsion for boys of this age to attend, and consequently any instruction given at this period of a boy's life must be attractive. Unquestionably drill does attract boys. This has been demonstrated in the different brigades of boys, where drill is used as a means to an end, *i.e.*, to collect and keep together boys in order to give them some form of religious instruction. But in order to ensure continuous and regular attendance, the instructor must be keen and enthusiastic, and here we have the real crux of the whole matter. If the teachers in the elementary schools would take up physical training in elementary and military drill in continuation schools with keenness and enthusiasm, there is not the least doubt that the movement would be successful. On their attitude depends the success or failure of the scheme. The chief obstacle to the formation of cadet corps in connection with elementary and continuation schools is the proviso by the War Office that for any body of boys to be recognised officially as cadets uniform is compulsory. The consequent expense practically debars any such corps being formed in connection with these schools. If the War Office would forego this, and would recognise any body of boys, not less than forty in number, of twelve years of age and upwards, as a cadet corps, whether in uniform or not, there would be no reason why such corps should not be established in connection with the majority of these schools. A badge might be worn, if considered desirable. Such corps having been formed, the teachers would receive commissions as cadet officers, and would be eligible to attend a course of instruction at the military schools. I would suggest that the course for cadet officers belonging to elementary schools should be modified, and embrace a certain amount of physical training as well as military drill. I am convinced that if this were allowed, and the teachers received commissions, and had the power of forming cadet corps in connection with their elementary schools—the boys after leaving these schools remaining members—the teachers would throw themselves into the movement with enthusiasm. They would realise the benefit, from an educational and moral point of view, of retaining touch with the boys after they had left the elementary schools, enabling them to carry out other and more advanced mental instruction, and they would also thoroughly appreciate, from a patriotic point of view, the fact that they were training the lads to take their part in the defence of their country should occasion for their services arise. The boys themselves would be keen on joining such corps; the official recognition by the War Office would make them feel that they were the 'real thing,' not playing at soldiers. Of course I am taking it for granted that military drill shall in future be a grant-earning subject in continuation schools.

8348. May I take it that you have had in the past any difficulty with the War Office regarding some of these questions?—You mean particularly with regard to abolishing the uniform?

8349. Well, that is one point; yes?—I would not exactly say that we have had any difficulty. We did ask that they should recognise in the schools bodies of boys as cadet corps without insisting on uniform, and they gave us a somewhat evasive answer. They have recognised such bodies to a certain extent—that is to say, they have instructed the general officer to carry out a certain amount of inspection, but they have not recognised them as a cadet corps, which is, to my mind, the main point.

8350. And when was this answer given, to put it on the notes?—It was in January, I think.

8351. Of this year?—Yes, this year; they sent a circular letter round from the Adjutant-General's office; I think it was in January.

8352. You have seen teachers drilling classes, I presume?—Yes.

8353. And you have seen very often that they have very little knowledge of drill or the means of imparting it?—Certainly.

8354. Do you think that the object is gained of helping the physical training of children by giving them drill to a very badly given word of command?—Certainly not; I think it is worse than useless; unless the drill is taught properly and the physical exercises are taught properly it is waste of time; it is worse than none at all.

8355. Still thinking that, you strongly advocate that the teacher should be the person to give the drill?—I strongly advocate that as long as the teachers are properly taught

8356. And inspected?—And inspected.

8357. You recommend that classes at regimental depôts should be formed for those who are at present teachers. Do you not think there would be some difficulty with the civilian element and the military element?—I do not think so at all; I think that could be very easily arranged. I would not suggest that the classes of teachers should be taught at the same time as the recruits, but I think it may be very easily arranged for classes of school teachers alone on Saturdays, or say at some time when the gymnasium is not being used by the military.

8358. Of course the gymnastic non-commissioned officers and so on, I suppose, would receive something extra for that?—They ought certainly to receive something extra for that.

8359. Therefore it would be a matter of expense?—That would fall on the local authorities or the Board of Education; it would hardly be a fair charge to make on the military.

Cadet corps: War Office Proviso.

8360. *By the Hon. Thomas Cochrane.*—What regulation do you refer to when you say, 'Proviso by the 'War Office that, for any body of boys to be recognised 'officially as cadets, uniform is compulsory'?—It is laid down in the Volunteer Regulations dealing with cadets, that for a cadet corps to be formed you have to apply through the officer commanding the regimental district, stating the uniform that you are to wear. Two years ago it was absolutely necessary that the cadet corps and cadet battalions should wear the uniform of the battalion to which they are linked, but the War Office have modified that, and boys can now wear a suit of khaki serge or grey serge, which is very much cheaper, but still they must have some sort of uniform.

8361. They will not be satisfied with a cap and a belt?—No; so far they have not altered those regulations. In regard to what I said about the War Office, I cannot quite say that we actually asked the War Office to sanction this particular scheme that I suggest. We did ask them to recognise in the secondary schools bodies of boys without uniform as cadet corps. They never actually said, 'No, we will not recognise 'them,' but they said, 'We will allow drill carried out 'in those schools to be inspected.' But that, of course, is a different thing.

8362. That means to say they do not supply you with arms?—No; and they give none of the advantages of the cadet corps. My point about these corps, these bodies of boys, being considered as cadet corps and recognised as such in the elementary schools, is not so much really the getting of arms or ammunition; the main point is to get the teachers to become officers, because to my mind the whole question of the physical and further military training rests with the teachers; unless you get them on your side, well, it will be taught in a perfunctory manner, or it will not be taught at all. If these bodies at elementary schools and continuation schools were recognised as cadet corps, the teachers could get commissions, and I am sure that it would create enthusiasm.

Model course: military drill and physical exercise: proper order.

8363. *By Sir Henry Craik.*—Just one question about this 'model course.' That 'model course,' as you are aware, begins with military drill and goes on to physical exercise?—Yes, I know that.

8364. Objections have been raised to that sequence?—Yes.

8365. Do you think they are well founded?—Do

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you mean from the general point of view or referring more especially to this 'model course'?

8366. No; I mean the beginning with a certain form of military drill and then going on to the physical exercise?—I think that is absolutely essential. I think that to get the full value out of physical exercise you must ground the boy in squad drill; you must teach him first of all to obey you before you begin to teach him physical training.

8367. It is not in order to give any military character to the instruction, but because it is the proper sequence in the education of the individual?—It is the proper sequence, and it will be useful afterwards; but, putting apart the military point of view entirely, to my mind, you cannot properly, physically, train anybody unless they are first taught to answer the word of command, and you cannot teach them to answer the word of command unless they have a certain amount of squad drill.

Cadet corps: age.

8368. Then one more question in regard to those cadet corps: What is the age required for entry into cadet corps?—For a cadet corps it is twelve.

8369. But, as a rule, they are rather older?—The cadet battalions. There are two forms of cadets; there is the cadet corps which is attached to a Volunteer regiment, and there is the cadet battalion which is an independent organisation; the cadet corps take boys from twelve upwards; cadet battalions from fourteen upwards.

8370. When they cease to give any attendance at the day schools?—From fourteen. My object in putting cadet corps especially rather than cadet battalions was for this question of age, because it seems to me so advisable, if you could begin, you could have your nucleus of a cadet battalion in your elementary schools of boys of twelve, which would then be carried on in the continuation schools with the older boys, so it would form a link, as it were, between the continuation and the elementary schools, which, I think, is a very valuable thing, not from a military point of view, but from the educational point of view.

Teachers as officers.

8371. When those boys cease to attend school and go into a cadet battalion, there is no reason why the teachers should not be officers?—Not the least.

8372. But, as a rule, do they become officers?—It has never been tried. This scheme, really, has never been tried anywhere in England. It is in force in Victoria and in other Colonies.

8373. But, in your cadet corps, do you not rather aim at rather a different class for officers than the ordinary teachers?—At present there are no working-class cadet corps. There are working-class cadet battalions, but they are independent of schools. The cadet corps—the better class of cadet corps—are in our bigger schools, but I see no reason why the cadet system should not be carried out in the elementary schools, with the school teachers as officers. Of course you must bear in mind that a cadet officer is only an officer of cadets; he is not allowed to take command of any other body of men.

8374. But he holds the King's commission?—He holds the King's commission, and I think he ought to; if he is teaching the children military drill, he is the man to hold the King's commission.

Militarism.

8375. *By Sir Thomas Coats.*—Do you recommend that cadet corps should be formed at all the elementary schools with the boys from twelve years old and upwards?—I do, certainly.

8376. And that the teachers should have commissions?—Yes.

Voluntary not compulsory.

8377. Do you not think there would be a very great objection to that among many people, the idea that it was making them much more soldiers than anything hitherto attempted?—I do not think it would. I think people are far more frightened of the bugbear of militarism than there is any reason for; they do not feel this with the Volunteers; no one objects to Volunteers.

8378. That is voluntary?—That is voluntary; so this would be voluntary; I do not anticipate that it would be compulsory. I certainly have never said so in my evidence, and the advisability of starting it compulsorily would be extremely doubtful, but I think, if it were allowed, a very large number would carry it out voluntarily.

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8379. Then who would have the option, the School Board or the head-masters of schools?—If there was a feeling in any elementary school, if the schoolmaster was keen, and he suggested to the local bodies to start such a thing, if they were keen, they would agree together.

Sugges

8380. Do you make any suggestion about the physical training in those schools where they do not adopt the cadet corps system?—Oh, the physical training in those schools would, of course, be based on the 'model course,' or whatever official course is issued by the Board of Education, quite irrespective of the cadet corps.

8381. Then, do you think both could go on in the same school; supposing they had a cadet corps numbering perhaps one-third of the boys in a particular Board School, do you think the cadet corps could go on, on parallel lines, to the physical education of the other boys?—Oh, perfectly, because part of the cadet corps' training would be the physical training; and, as an instance, though not in an elementary school, in St. Paul's School, Hammersmith, they go on side by side. It is absolutely compulsory for all boys to have physical and military training, and they have a cadet corps at the same time, and the result of bringing in compulsory physical training in the school was to increase the number of the cadet corps. I do not see any difficulty in the two going on side by side, they are so closely connected.

Girls.

8382. Then regarding the physical training of girls, you do not see any difficulty in carrying that on at the same time?—I see none.

8383. And would you require to have the girls taught by their own teachers—that is, by the lady teachers?—Yes, from all points of view, girls or boys, I certainly think the teachers ought to be the people to carry out the instruction. The moral and intellectual good that is instilled into children by a proper course of physical training being carried out on military lines, teaching them to obey, if the teacher taught them, would react in other branches of their education.

Milita and pl trainir

8384. I am interested in hearing your opinion that you would put military drill before physical training, because the other evidence we have had, I think, rather puts it the other way?—You are referring to a question Sir Henry Craik asked.

8385. Yes, that you would regard military drill before physical training, in order that they should learn how to obey the word of command?—Yes, when I say I put it before, I do not mean that I put it as a more important——

8386. No, no?—If you went into two schools, one of which was trained purely on physical training, and one was trained on physical training on the basis of military drill, you could tell in a moment which school had had military drill, because of the smartness and the precision that the one lot carry out the physical training, and the rather free and easy sort of style that the others do it—that is my point.

8387. In the infant classes, could you carry that out too; they give them physical training of a kind?—They give them physical training; there is no reason why infants should not learn to fall in and stand up to attention. That of itself is a physical training and a mental training too, of a very valuable sort. It is the most difficult thing in the world to get a boy to stand still now.

8388. *By Mr Shaw Stewart.*—I suppose the military drill which precedes the physical exercise is a very simple form of squad drill?—Absolutely a simple form; it is to enable the children to move from one quarter of the room to another, stop there when they are told, stand up to attention, keep still; really it is sufficient to make them properly obey a word of command.

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8389. One question on the cadets' uniform; I would like to know what kind of uniform should satisfy the War Office, would it be simply belts and caps; do you think that will satisfy the War Office?—Absolutely, I

think that a cap of itself would be the minimum. Of course you would find in many schools that they would not be content with that, they would add a little more, that would be left to the school. The minimum, I think, if we had a uniform cap or a badge of some sort just to show that they belonged to a cadet corps.

8390. *By Mr Fergusson.*—When you were answering Mr Shaw Stewart's questions just now, I understood you to say that you wished little drill before physical exercise; for instance, for infants you said you wanted very elementary drill?—Yes, very.

8391. You dignify it by the name of 'military drill,' which perhaps made us think you were advocating something more complicated?—That is the pity, that people have the idea that military drill is a complicated thing, but I do not quite know how one can explain it otherwise than calling it military drill.

8392. Every system of physical exercise has these simple movements as part of the physical exercise?—As part of the physical exercise.

8393. It need not be called by any different name, it is included under physical exercise?—I do not mind what you call it, so long as you embody in it the essential squad drill.

8394. Quite so. Then, as to this 'model course,' what exactly is the 'model course'?—The 'model course' is a course that was drawn up by a Committee appointed by the Board of Education—the Superintendent of Army Gymnasia had a great deal to do with it—and it is a similar course to what they found has been so efficacious in the Army for our recruits, modified, of course, for the use of children of younger years.

8395. But really the only difference is change of words; there is very little modification, is there?—They have cut out certain exercises that are not suitable for children.

8396. We have been told that that course is extremely good, but it is not sufficiently progressive when you have to start children at five years of age and carry them on to fourteen—that there is something wanting in it; there is nothing in it that should not be in it; but there is something wanting, and that a system such as Chesterton's, being more progressive, is better. What do you say to that?—I hardly like really to give an opinion on that, because, of course, I am not an expert in the actual physical training. I could not say if I were asked of two exercises which was the superior of the two, or if they wanted an intermediate exercise; I am not a specialist in that particular line.

8397. As to these cadet corps—of course, I take it that you have been looking at the whole thing from the point of view which is at the end of your printed evidence—'training the lads to take their part in the defence of 'their country,' and make them and the teachers 'feel 'that they are "the real thing," not playing at soldiers. Please put that all aside, I put the view to you, that we have nothing to do with making soldiers?—Quite so; yes.

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Day and continuation schools: some organisation required as connecting link.

8398. Suppose that all one wants to do is to make boys physically fit and healthy. Now, how do the cadet corps apply to that?—Well, they apply, to my mind, very strongly to that. The difficulty you have—at least, so it always seems to me—of dealing with the boys of the United Kingdom is this, you teach them up to the age of thirteen, when they leave school, then you drop them; there is nothing further done for them. You have got your continuation schools, where you try to get them to come to, but you have got no organization that joins on the boy when he is at school to the time when he is a man; and I think myself (it has been proved in Victoria, in Australia), that if you had an organization that started with the boy at school—an organization that, certainly putting aside, as you say, the military value entirely, is a military organization which improves him physically, and certainly morally, if you get an organization of that sort started in your elementary schools, then the boys would still remain on when they had left school, and until a boy was sixteen or seventeen, the same teacher that had taught him in the elementary school would also have his eye on him, and be in touch with him, provided, of course, he did not leave the place.

8399. But might it not be better to keep clear of any military element? Why give the teachers commissions and so on?—For this reason, because I think the experience of anyone who has had anything to do with boys is that it is no use trying to get a boy and put him down with the teacher to learn more advanced arithmetic and so on. If you say, 'Come out into 'the field and do some drill,' which is always popular, then you will hold him, as they have found in the different brigades of boys, who use drill merely as a means to keep them together.

Scheme suggested: two advantages.

8400. Then I may take it that you advocate this form of drill that you have told us of to make it attractive and popular with the boys, and not for the purpose of trying to make them soldiers?—Oh, no. You must not quite understand that. I say that there are two advantages, to my mind, in the scheme that I advocate; one is that it will enable the teacher to keep touch with the boy in after life, between the years of thirteen and seventeen, thereby enabling him to possibly carry on further instruction from the mental point of view, and certainly will keep him from loafing about the streets, and improve his physique at the same time. It will not make him into a soldier, but it will train him so that he will be of use if the country wants him, and I certainly think something of that sort ought to be done, as I look upon it as a very important part of the education of the individual. These are the two points. I could not, as evidence, say that my only object was to keep touch with the boy.

8401. Put it the other way, your only object is not to make him a soldier?—Certainly not.

The witness withdrew.

The Right Hon. The Earl of Meath, examined.

Earl of Meath.

8403. *By the Chairman.*—You are President and Chairman of the Lads' Drill Association?—I am. I have also had a good deal of experience as regards the physical condition of people in London and other large towns. I was the first Chairman of the Parks' Committee of the London County Council, consequently that brought me into very close connection with the masses of the population in the Metropolis, especially in the poorer parts of the Metropolis, and I have also been connected with a great number of movements in relation to the physical and moral welfare of the masses of population in London, and that made me think, in the first instance, of the absolute necessity that exists for some steps to be taken to improve their physique. I was the founder and am the President and Chairman of the Metropolitan Public Gardens Association, which was established as a result of the conviction that came across my mind that open spaces and gymnasia were absolutely necessary, so that for many, many years I have taken the very deepest interest in this question. The Royal Commission on Physical Training (Scotland) having been good enough to invite me to give evidence on the subject of Physical Training from the point of view of the Lads' Drill Association, of which I am the President, I think it right to state that I possess no special personal knowledge of the physical training of the people of Scotland. I am deeply impressed, however, with the low physical standard of the population of the poorer portions of almost all the large cities and towns of the United Kingdom. I am convinced that any nation, the people of which as a mass do not enjoy a fair measure of physical health and strength, cannot be successful in competition with other countries, either in peace or war. A lowered physical vitality means, as a rule, a weakened brain and a weakened will, and I am firmly of opinion that the habit of inordinate indulgence in intoxicating liquors is due in many cases to a feeling of depression

General physical standard: low vitality: effects.

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occasioned by physical exhaustion. Thus a vicious circle is created. The exhaustion tends to drunkenness, and the drunkenness to still greater depression, a weakened digestion, and a lowered vitality. The sad effects resulting from a low vitality are mostly to be seen in large populous centres, and are due to many causes—heredity, bad food, impure air, long hours of work, unhealthy excitement, irregular hours, immoral and vicious habits and want of self-control, lack of sufficient rest and sleep, mental anxiety, want of sufficient exercise, as well as to excessive indulgence in strong drinks, and to want of healthy recreation and amusement. I do not imagine that the Royal Commission can be in any doubt as to the palpable fact that the population of our large towns are inferior in physique to those inhabiting the country. A personal visit to the worst portions of London, Manchester, Liverpool, Birmingham, Leeds, Sheffield, Glasgow, or Dublin would soon satisfy any person who may be sceptical as to the truth of this proposition. I may say also I am the owner of property in the poorest parts of Dublin, consequently I have been brought into the very closest relationship with the most poverty-stricken portions of those districts, and have been so impressed with the necessity for physical exercise that I have established three open-air gymnasia on my own property with caretakers, and they are the greatest possible success; they are always crowded with children. I doubt not that the recruiting offices for the army could supply valuable information upon this subject, although it would be misleading to take the average height and weight of recruits enlisted in cities without previous enquiry, as almost all country lads go up to the large towns to enlist in the army. It has been stated publicly, and has never been contradicted, that out of 11,000 men who volunteered from Manchester to serve in the army in the year 1899 (which partly covers the time of the war in South Africa), only 3000 were accepted as physically fit, and of these only 1000 were found good enough for the regulars, the remaining 2000 being relegated to the militia. I know of no reason to doubt this statement, but if it be only partly true, there must be something very materially wrong in the condition of city life. The General Inspector of Recruiting, in his report for the year 1901, states the percentage of rejectments all over the Kingdom of those who offered themselves for service in the army, on grounds of physical development, was 29·04. That more than a fourth of the young men who desired to enter the army in 1901 should be physically unfit is a very serious matter. The sad thing is that our population is rapidly becoming town-bred, and this remark applies to Scotland. At the last census the urban districts of England and Wales contained a population of rather more than 25,000,000, or 77 per cent. of the total population. The rural districts contained only 7½ millions of population, or 23 per cent. of the total. In Scotland the census showed a very similar state of things. There 3,367,280, or 75·3 per cent. of the population, lived in urban districts, whilst only 1,304,720, or 24·7, resided in the rural districts. These figures mean that the population of Great Britain is largely town-bred, and that for one man who lives in the country three reside in the town. Here is ample food for reflection. It must also be remembered that the transformation of a country into a town-bred people is taking place at an astonishingly rapid pace. Within the recollection of most middle-aged men, the population of town and country bred was only two to one, instead of three to one as it is now, and at the commencement of the last century Great Britain might have been considered a country-bred nation. Notwithstanding the efforts which are being made by the Garden City Association and other bodies to encourage a movement from the cities back to the country, it appears very doubtful whether more can be hoped for than a partial arrest of the rapid growth of these populous centres. The experiences of modern life seem to compel the accumulation of large masses of human beings within confined areas. If this be the case, it should be the urgent and constant pre-occupation of those whose duty it is to care for the welfare of these populations to see that all that thought, knowledge, science and money can effect be done, in order to save these men and women, and especially the children, from the physical deterioration which is sure to set in if steps be not taken to counteract it. Sanitary houses, good, abundant and well-cooked food, pure air and water, open spaces, open-air and covered gymnasia, well-trained instructors, and compulsory physical exercises in all schools, together with facilities for poor lads on leaving school to join cadet corps and battalions without expense to themselves or their parents;—all these things should tend to improve the physique and morale of the youth of our towns, and, although I lay greater stress on the provision of these necessaries for the lads and lasses of our towns, they are needed sadly, I think, in a lesser degree, by those of our country districts. Many of the above requirements are beyond the scope of the terms of reference of the Royal Commission, but the provision of adequate playgrounds and of caretakers attached to schools, of covered gymnasia attended by competent teachers, the establishment of a system of physical exercises and drill which shall be compulsory upon every healthy scholar, such as the 'model course' lately recommended by the English Department of Education as suitable for both boys and girls in elementary schools, and the encouragement of cadet corps and battalions by making drill and physical exercises part of the curriculum of every continuation school, are all within the scope of the terms of reference, and would, in my opinion, greatly 'conduce to the welfare of the pupils, 'develop the faculties of those who have left the day 'schools, and thus contribute towards the source of 'national strength'? In order, however, that full benefit may be obtained for any outlay which is made on the purchase and maintenance of school playgrounds and gymnasia, it is absolutely necessary that a trained and competent teacher of organized games and of gymnastics should be constantly in charge of the children when in the ground, so as to train them how to make the most of the advantages provided for them, and also to prevent all accidents, loafing and bullying. Owing to the want of such trained caretakers many of the school playgrounds of London, which have been purchased at heavy cost to the ratepayers, are practically useless, and in many cases the gymnastic apparatus which had been provided has actually been removed in order to prevent accidents.

Now, in this connection, I may say that some years ago the Metropolitan Public Gardens Association, of which I was the founder, was so impressed with the absolute want of physical education in our schools, and the absence of all means of training, that the Association offered £300 to the London School Board to provide a gymnasium, because at that time so negligent were the governing authorities in this country in regard to physical education, that the School Board of London of that day wanted to teach the children physical exercises, and the members of the School Board had to pay out of their own pockets for doing so, as the auditor refused to pass the account of the money they had expended on physical education, and so impressed was the Metropolitan Public Gardens Association by what we thought this iniquitous conduct, that we said somebody ought to come forward and do something, and we offered £300, in order to assist them towards building some kind of shed where physical exercise could be taught. The School Board of London thanked us, but they said: 'Would you permit the £300 to be 'spent in bringing over physical exercise teachers from 'Norway and Sweden, where these exercises have for 'many years been established.' We at once thought that idea would be a very much better plan, and we said: 'Certainly, by all means; all we want is that 'physical exercise should be taught in our schools, and 'that it should not be possible for the country to make 'public-spirited men like you pay out of their own 'pockets for the physical education of the children. So we paid for these teachers, and that was the origin

Town and country.

Gymnasia established in Dublin.

Condition of city life: example.

Recruits: rejections.

Urban and rural population: percentage.

of the physical exercise department of the London School Board. Afterwards the School Board of London of those days established gymnastic apparatus in many of their playgrounds. As you are aware, my lord, Saturday is the only half-holiday the children have, and after a very short time it was found that owing to the want of any caretaker being on the ground accidents occasionally happened. And the reason why the caretaker was not on the ground is this, that the Saturday is the only day the schools are empty, and they have to be cleaned out, and the caretaker has to clean out the schools on the Saturday afternoon. Consequently he cannot be in the playground. The whole benefit, therefore, that ought to have been obtained by the purchase of apparatus has in some instances been lost, because there is no caretaker to superintend the children, and the school playground has had to be closed against the children on a Saturday. That seems to me to be the most extraordinary action. Thousands, possibly even millions, of pounds have been spent in purchasing playgrounds, and the only day in the week in which the children can use them they are practically useless. So our Association again came forward, and said: 'We will pay an instructor to teach 'gymnastics in a certain number of schools; we have 'not got the funds to do more than that,' and we did; for two years we paid a gymnastic instructor, and it was a great success. He formed classes in these school playgrounds, and he taught drill and physical exercises to the children. We held competitions, and gave prizes. We did it with the object of setting a certain example to the public. But the thing should be done, not by a private Association, but out of public funds. Nobody followed our example. For two years we carried on the work, and then we were obliged to stop. We argued, 'our Association has been formed for the purpose 'of providing open spaces. It is perfectly true that in 'our original objects we said that we would do all 'we could to advance physical instruction, but our 'principal object is open spaces. We have given this 'example for two years, nobody has followed it; we 'cannot go on doing it any more, and the thing must 'be dropped.'

An interesting movement for the better physical training of the young in elementary schools has lately been started in Macclesfield under the name of the Macclesfield Patriotic Association. This society, which is supported by voluntary contributions, has under training some 2500 children, of whom about 800 are girls, the boys, in addition to drill, being instructed in the use of the rifle. It has formed a cadet corps in the borough, and has affiliated with it the three Boys' Brigades already existing, giving them help in the shape of the services of a drill instructor and monetary aid. It appears to me that the Education Authorities should be empowered by law to assist by grants any such associations as in their opinion conduce towards the physical training of the young, and should be authorized to support pecuniarily such cadet corps and cadet battalions as may attain a certain standard of efficiency in drill and shooting to be determined by the Department under the control of the Secretary of State for War. As the Royal Commission has invited me to give evidence 'more particularly from the point 'of view of the Lads' Drill Association,' I may state that the object of the organization is to press on the Government, the Education Authorities, and the public generally the urgent need of training our lads, so that when they attain the age of nineteen they may be physically fit to enter the struggle of life, and may be capable of taking their proper place as alert champions of their country's interest, either in peace or in war. We believe that the qualities which are developed by a mixed system of physical exercises and of military drill are those which are as much needed to make a nation successful in its contests of peace as in those of war; the power to obey as well as to command; alertness of mind; a quick observation; concentration of thought; the co-ordination of mind and body leading to rapid action of the muscles at the direction of the will; the subordination of selfish to corporate interests, leading to noble thoughts and deeds; all these qualities appear to us to be developed by such a system, and we believe that the disorder and rowdyism to be met with amongst the young of both sexes in many large cities, and which lead to crime, are due in a large measure to the absence in our system of training of any outlets for the natural spirits of youth, and from a desire to use the muscles with which nature has provided them; and we are also of opinion that if the hours of study in most schools were broken up and interspersed with physical exercises, that discipline would not only be much easier maintained, but that owing to the blood being made to circulate properly through the brain as well as through other parts of the body, the scholars would return to their studies refreshed, and much more capable of assimilating the knowledge presented to them through the bracing of their intellectual faculties. The Lads' Drill Association advocates the training of every lad in physical and military exercises up to the age of eighteen, not only for the above reasons, but because they believe that the responsibilities of the Empire are now so vast that unless some such system is adopted it will sooner or later be found necessary to require that every man shall be trained to arms for a certain period of his life. If lads were taught during the educative periods of their lives such knowledge as would enable them in after years to become, in case of need, efficient defenders of their country, such compulsory adult training, except perhaps for very short periods, would become unnecessary, and we believe that such universal training of British youth in physical and military exercises would diminish the risk of wars, for many, if not most, British wars have arisen owing to the belief on the part of the enemy that the British nation had no military power at its back. The universal training of British youth in physical and military exercises would in the words of your terms of reference certainly 'contribute towards 'the sources of national strength,' and in a few years' time it would seem as natural for schools to train the body as to teach reading, writing and arithmetic. In order that such an organisation should be properly carried out—

Lads up to eighteen: universal physical training advocated.

Desiderata.

1. One system of physical and military drill should be made compulsory in all State-aided schools over the United Kingdom.
2. Centres should be established and supported by Government, where teachers could be properly instructed by experts in physical and military drill.
3. No school teacher should be permitted to give instruction in physical and military drill who had not passed an examination before an examining body appointed for the whole Kingdom. In Germany no teacher is allowed to teach physical exercise until he has spent six months at a training college; it used to be twelve months, but they have reduced it to six.
4. Educational authorities should be empowered by law to support financially schools where physical and military drill are taught by certificated physical instructors. They might also be empowered to give grants to associations which in their opinion were instrumental in the improvement of the national physique.
5. Municipal and County Authorities should be authorized by Parliament to support financially cadet corps and battalions which had obtained during the previous year certificates of efficiency issued under the instructions of the Secretary of State for War.
6. A small Parliamentary grant should be given to each corps for every efficient cadet between the ages of fourteen and nineteen.

Cadet corps: advantages.

If any number of lads are ever to find their way into cadet corps and battalions, it is imperative that some pecuniary assistance should be provided. These organizations cannot be carried on without money, and just in the localities where they are most needed it is impossible to raise the necessary funds. Such organizations, if made national and properly supported, would

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lay hold of lads on leaving the elementary schools at thirteen or fourteen years of age, and would carry them over the most critical period of life until they became old enough at seventeen or eighteen years of age to join the volunteers and earn an efficiency grant. The lads would from their earliest years be taught the lessons of loyalty, patriotism, obedience, punctuality, unselfishness, cleanliness, orderliness and self-respect. They would gradually learn the responsibilities of life, and would be fitted for the high and important duties which are inseparable from the position of a citizen of Great Britain and a subject of the Empire.

Hooliganism: boxing.

Now, my lord, it has been found that if you want to get hold of the roughest and the worst class of hooligan, there is only one way to get hold of him, and that is by making him expend his physical powers in heavy work, physical work, and the most successful workers amongst the roughest population in the East End of London have found that there is nothing better than starting boxing classes, and I know clergymen who have been most successful in that way. Lads who would not sit down to a table or listen to a lecture, or read, or do anything of that sort, will come into a gymnasium to learn boxing, and in a very short time you will find these lads perfectly different, and absolutely amenable to discipline. They are accustomed on the streets to bully those who are weaker than themselves; they cannot do that when they come in; they find there are certain laws, certain regulations, certain rules that they are bound to follow in the ring, and they get thoroughly well pommelled by others who are just as strong as themselves, and their energies are given vent to, and they learn the meaning of order, obedience, discipline and fairplay. One of the saddest things amongst the lowest population of our large towns is the want of fairplay. I think in former years there was a greater feeling 'do not hit a man when he is down,' and I am afraid nowadays it is not the case always. On a well-known recent occasion, when a volunteer who had just returned from serving his country in South Africa was killed, there were five wretched fellows who set upon one, and I have known several instances of that. In the gymnasium, in the boxing ring, fairplay is taught. And these lads, mind you, are not bad. There is splendid material in them. There are certain things they have to be taught, and it is quite possible to make splendid men of them. All your religious organizations are perfectly useless upon that sort of lad. When you have obtained a hold over this class of lad, and only then, can you approach him with any hope of success; then you may bring to his notice your religious organization, your technical and other instruction, your reading, your writing, and your arithmetic, and what you like, but the first thing is to get rid of his energy in a useful manner. A great deal of this hooliganism and riot and rowdyism is simply and solely because our lads have no means of working off their energies. This is why all my life I have striven to try and keep

Suggestions.

open our municipal lungs, and to increase playgrounds and gymnasia. But playgrounds and gymnasia are useless, my lord, unless you have caretakers, unless you have teachers. You must have teachers, and that is the great difficulty. I have tried for years to get voluntary teachers. It is impossible to do it; you cannot do it; they must be paid. Occasionally you get settlements where you can get men, devoted men to do an enormous amount of good, but, after all, that is only a drop in the ocean. What is wanted is some kind of State system, not necessarily under the Imperial Government, but under the County Councils or the Educational Authorities, or some central authority of that sort, or the Borough Councils; something which will be under regulation and rule, and shall have some fixed funds at its back. I feel certain, my lord, that you are at the head of a Commission which is dealing with one of the most important subjects that could possibly be brought to the knowledge of statesmen.

Drill *plus* physical exercises.

8404. *By Mr Alston.*—I think that in the general run of your printed evidence, and in the Report of the Lads' Drill Association, you are strongly in favour of military training?—Mixed with physical.

8405. The tendency of the evidence of the Association seems to be that the boys should be so trained that they may be able to serve as soldiers in the defence of their country?—That is only one branch; I am not in favour simply of drill, I am in favour of drill *plus* physical exercise.

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8406. But you would not say physical training *minus* drill?—No, no; the two combined; I think one is not enough; you must have both combined.

8407. You refer to 'the need of training of our lads, 'so that, when they attain the age of nineteen, they 'may be physically fit to enter the struggle of life, and 'may be capable of taking their proper place as alert 'champions of their country's interest, either in peace 'or of war'; that of course goes beyond mere physical training?—Certainly, the two combined.

8408. And very far beyond military drill?—Oh, certainly, the two combined.

8409. I think you are the Honorary President of the Dublin Battalion of the Boys' Brigade?—I am.

Boys'

8410. You do not think that the Boys' Brigade quite fulfils the conditions that you desire to obtain in the Lads' Drill Association?—Not quite fully, unless they go in, as many of them do, for physical exercise; a great many of them do.

8411. But there military drill is only, of course, for another object, and not to make the lad a soldier?—Not wholly, but they prepare themselves. They may have another object in view, but they prepare themselves for the defence of their country.

8412. In the constitution, military drill is sanctioned for securing discipline?—For another object.

8413. Simply as the means to attain that object?—Yes, but in doing it they make themselves capable of defending their country.

8414. In a certain sense?—Yes.

8415. But then, of course, there is no further military training for them, the ages being from twelve to seventeen?—No.

No co pulsio elemer school

8416. But you would advance further, and carry the boy forward in purely military training?—If he chose; not compulsorily after he has left the elementary or the continuation school.

8417. Not compulsorily?—Oh, no.

8418. But you want to give him the opportunity?—To give him the opportunity.

Maccle Boys' weapo

8419. And again you refer to the Macclesfield Patriotic Association, and say it 'has under training 'some 2500 children, of whom 800 are girls, the boys, 'in addition to drill, being instructed in the use of the 'rifle.' What kind of rifle is that?—I have never seen it, but, as far as I understand, it is the rifle that the Government hand out now to all cadet corps.

8420. It is capable of being discharged, then?—Oh, certainly; yes.

8421. Because you go on to say, 'It has formed 'a cadet corps in the burgh, and has affiliated with 'it the three Boys' Brigades already existing?—Well, I may as well say at once that I think a dummy rifle is a mistake.

8422. But what companies are these; the three in Macclesfield?—I believe Boys' Brigades and Church Lads.

8423. And doubtless some others, because I have noticed in the Report of 1901 that the Boys' Brigade has only one Macclesfield company. It is connected with the Wesleyan Church?—I only know this from what I have seen in print. Mr Horsfall is at the head of that movement.

8424. That company could not be associated with the Patriotic Association that uses rifles that could be discharged?—Why not, sir?

8425. The Boys' Brigade would not sanction a rifle that could be discharged?—No, but they would not prevent them using it if it were supplied by the Association.

8426. Oh, yes?—No; I think they teach them to shoot, not the brigade itself; but they could not prevent them if they do it at home. The Association, as far as I understand, provide proper rifles. To the best of my belief all that the members of the Boys'

Brigade, who also belong to the Macclesfield Association, do, is to go and shoot with the other rifles, although they have the dummy rifles as well.

8427. I do not think the company, as a company, would be allowed to be affiliated with the Association?—I will not enter into that. I only understood so. I may be wrong.

8428. I wanted to get at that point?—If you want to know my own feeling in the matter, it is that every lad should be taught to shoot, and, as I have already stated, because I want to avoid conscription. My own positive conviction is that we must within twenty years come to conscription, or some kind of compulsory service, unless we train our lads. That is my firm conviction.

8429. Have you formed any opinion as to what would be the effect on the Boys' Brigade if such an association as yours absorbed the whole field?—I do not think it would be necessary to absorb the whole field. On the contrary, I should not wish it. I am perfectly satisfied with what is being carried out by the Boys' Brigade and the Church Lads' Brigade as far as they go; but the point is this, that the Boys' Brigade and the Church Lads' Brigades being established for a very excellent religious purpose, these brigades can never hope to obtain the rough lads from the great mass of the population. These lads, unfortunately, reject all attempt at being influenced by any religious association, and, unfortunately, the majority of lads are excessively shy—very wrongly, of course—of connecting themselves with a Christian Association, or anything which is of a definite religious character. Consequently, although I am a great supporter of the Lads' Brigade and of the Church Lads' Brigade, for its special objects—those religious objects—still, at the same time, looking at it from a national point of view, I say that if we are to improve the physique of the whole mass of the lads of our country, and also to make each lad capable of defending his country, if need be, we must have a much larger, broader, and more national organization. But we need not interfere with the Boys' Brigade or the Church Lads' Brigade. Those lads already drill *minus* the shooting, which can be obtained, as I understand, and is obtained, in Macclesfield by another side issue. There is nothing to prevent me or anyone else from offering prizes, if we so choose, to any lads belonging to the Lads' Brigade, or the Church Lads' Brigade, who elect to go and shoot at the neighbouring butts.

8430. As an individual boy?—As an individual boy.

8431. You are speaking of very rough lads; what ages are these rough lads?—Oh, of all ages; they begin as soon as they can bully the younger ones; they begin at ten and go on to nineteen.

8432. The Boys' Brigade would be willing and agree to get into their companies rough lads of the same kind, because they believe the drill and discipline would effect a reformation?—Yes; but unfortunately the rough lads will not come to them; these lads that I am talking of will not come to them; that is the difficulty.

8433. Between the ages of twelve and seventeen?—No; the better-behaved lads, those who have already a desire for something better, a tendency towards religious organizations, those are the lads who join those bodies; but the proof of my contention that they only attract the better disposed lads, is shown by the fact that the members of these religious organizations are so few in number compared to the mass of the youth of the country.

8434. *By Mr Fergusson.*—Just continuing that point, you say that it is the better-behaved lads who join, but how do you suggest that one can get hold of the ill-behaved ones unless under some compulsory system?—Oh, I feel quite certain, sir; of course it is difficult to give you a proof, but I feel perfectly certain from my knowledge of the poorer classes, and the lads in London, that you could get any number of lads if only the money were forthcoming; there is the difficulty. These cadet corps and battalions cost money. There has to be a uniform, and, however cheap you make the uniform, it is impossible to do it without a certain amount of expense, and just in the places where you want these corps and battalions you cannot get the money; in the East End of London, and the north and the south, you cannot get the money; it is a most difficult thing. I think you will probably have evidence before you that several cadet corps and battalions have already broken up for want of money—already well-established ones—and it is the money which is the crux of the whole question. The lads are quite willing to come in; there is nothing more attractive to a lad than drill, especially if it is a real drill; and more particularly if it is connected with shooting.

Hooligans.

8435. Then, without going the length of a cadet corps, do you think you could get lads to take up gymnastics and physical exercises without making them compulsory; mind you, I am speaking of the hooligan class?—Yes, I think you could, sir, because I know clergymen who do get hold of them in different parts of London.

Continuation schools: physical training compulsory subject.

8436. Then you would not be in favour of making physical training compulsory?—I would in schools.

8437. Not after the age of fourteen—fourteen to eighteen?—In continuation schools; I would in continuation schools.

8438. You would?—Yes, I would make it compulsory in continuation schools.

8439. You would make it a compulsory subject in continuation schools?—Yes, I would; yes.

Rejection of recruits.

8440. You give the percentage of 29·04 who are rejected on the ground of insufficient physical development; these figures really make it look better than the fact is, because the worst cases do not come up for inspection. The recruiting-sergeant rejects them at once; so these figures do not represent the worst of it?—No; and then there is another view of it. A lad who is physically incapable, and is aware of it, will not offer himself as a soldier.

Continuation schools: compulsory attendance.

8441. *By Mr Shaw Stewart.*—In answer to Mr Fergusson just now, you said you would make physical training a compulsory subject in continuation schools, but I would like to know whether you would be in favour of making attendance in continuation schools compulsory?—Yes, sir, I should. I believe it is compulsory in Germany, and I do not see why it should not be in this country.

8442. You think it is the only way to get the rougher boys to attend?—To do it thoroughly and effectively; yes.

8443. No doubt you are aware that there is such a thing as an anti-military spirit in the country?—Certainly.

8444. I daresay you have come across it?—Yes.

8445. And therefore you know it cannot be neglected; we, as a Commission, are bound to consider it?—Certainly.

Military drill: effect in civilian pursuits.

8446. Do you think that military drill can be made to be very useful in civil measures, apart from military?—Certainly, sir, certainly.

8447. Do you think it would be useful, for instance, for the management of a crowd at a fire?—Certainly. I suppose you are aware that Sir Joseph Whitworth said that a man who had passed for military drill was worth one shilling and sixpence a week in his factories more than the men who had not.

8448. I was not aware of that; that is valuable evidence?—It is a well-known saying of his; I should not like to quote his actual words from memory, but they will be found in a Report issued by the Lads' Drill Association. Anyhow, it is a saying that is well known; one shilling and sixpence a week is, in his opinion, the extra money value of a drilled man.

Militarism popular objections due to ignorance

8449. I take it that the chief objection to militarism is that it unsettles the boys for industrial life; is that your experience of the chief ground of opposition to it?—I think the chief ground is ignorance. No, I should say, on the contrary, it settled them more for civil life.

8450. Yes; but I suppose there is an idea among tradesmen, we will say, in large cities, that if their

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sons were given regular military training, as boys, it might unsettle them for trades to which they wished to apprentice them afterwards?—I think it would be a very great mistake for them to think so. I have no doubt there are all sorts of erroneous views of that kind.

8451. I wanted to get your experience as to the chief groundwork for the objection existing in people's minds?—As I say, sir, I think those objections are entirely owing to ignorance, and I think I can give you a very good proof. Now, why is it, sir, we are all so dreadfully afraid of Germany? We point to Germany as being a military nation, and we say that we in England have a great advantage over Germany, because, whereas a German has to be two years or three years in military service, we are able to be in commercial and civil life during those years, and we get an advantage over them; and yet, at the same time, we are mortally afraid of the German, and we find the German cutting us out in the avocations of peace, and we are complaining all the time that he does so. Now, I think that there can be very little doubt whatever that it is owing to two things. First of all, I think the German has a very much better education than ourselves, but I do not think that is all. The other is, that he goes through the course of training in military drill and in physical exercises, which enable him to compete in a very much better way with other nations after those two or three years, especially with a nation like ours, which does not go through that course. It gives him qualities which help him afterwards to advance himself in the avocations of peace in a way that our *laissez aller* system or lack of system does not.

German education and training.

8452. So that you think that the military training that the young German gets makes him more efficient for industrial work?—Yes, certainly; and, not only that, but it gets rid of the loafing class, which we have in England, and which you do not see in any country where there is military training. One of the saddest things, coming back to my own country—I live a good deal abroad—is to see in our large towns that we have loafers hanging about public-houses, doing absolutely nothing, and who will not do anything. In connection with that, perhaps I might say that, on one occasion when a Mansion House Fund was established for the unemployed, the Lord Mayor sent me £5000 to expend on the unemployed, in connection with my Garden Association, and I was bound by the terms of the gift only to use it for the unemployed. Well, now, what was the result of that? I naturally accepted the money. I knew the money would be thrown away. We had, sir, to do the whole of the work over again, and it cost us twice as much as it would originally, because we had to employ men who could not do the work properly, and did not wish to do any work. We kept very accurate lists, and we found that only 3 per cent. of those men that were employed were capable and willing to work. Now, remember those two words, please, 'capable' and 'willing.' There was a larger percentage, if you took only capable; but of the capable and willing there were only 3 per cent. Now, that percentage, I found, was very much the same in another instance. On one occasion I was walking through Kensington Gardens, and I came across a specimen of humanity I had never seen in any other country in the world but this. He was a young man, about eighteen. He had no underclothing on at all; he only had outer garments, and those were in such holes that you could see his skin through almost every part of them; and there were two policemen—park-keepers—and I heard them following, and talking as to whether they should arrest him. They said, 'That man is indecent,' and so he was, absolutely indecent; and they were in doubt as to whether they should arrest him. His hair was one mass of vermin, and standing up like a Zulu's. I will show you the sort of way that man walked, with his hands in his pocket; he was eighteen or nineteen years of age, and he was walking in this sort of way, at that pace (*indicating*). There was absolutely nothing the matter with the man. 'Well,' I said to myself, 'ought I to 'go and speak to that fellow, or ought I not?' I did not want to at all. I was thinking of it as he passed me. 'Well, now, I will go round the Serpentine. I 'do not want to meet the brute, but if I meet him on 'the other side it is an evident sign I ought to speak 'to the fellow.' I did meet him. I said to him, 'My 'man, what has brought you to this?'—I must tell you he was smoking, so he could afford a pipe and tobacco, and he was whistling a tune; he was as jolly as a lark. He said, 'Misfortune.' I said, 'What kind 'of misfortune—drink?' 'No, no—misfortune.' I could get nothing more out of him, so being president of the Church Army, I said, 'My man, if it is 'really misfortune, I can provide you with a bed 'and with food and with work; but mind, you will 'have to work; do you want it?' He said 'Yes.' I said, 'Do not say it in that sort of voice; but, if you 'do not want it, say so; do you want it?' He said, 'Yes.' I said, 'Follow me.' I walked at my ordinary pace. I found he was miles behind. I sat down on a bench, and when he came up, I said, 'Can you not 'walk any faster than that?' 'No, I am too weak.' I said, 'All right, I will walk slower.' I went on at a slower pace, and again he was lagging behind. I sat down on another bench. When he came up, I said, 'I do not want to take you to this place, which is a 'good way off; I have a great deal of business on my 'hands; if you have nothing to do, I have; do you 'want to come with me?' He said, 'No, I do not 'think I do.' I said, 'All right; good morning.' He went about his way, and I went straight off to the Church Army. I saw Mr Carlile, and I said, 'Mr 'Carlile, many people doubt as to the real percentage 'of the genuinely distressed amongst the unemployed. 'Now, I want you to do something for me.' He said, 'What is it?' I said, 'I want you to send out 'two of your most trusted inspectors for two whole 'days; let them have note-books, and let them go to 'any place where there are most of these sort of men; 'and let them put down exactly what the men say and 'offer them, as I did that man, bed, food, and work.' He did so, and a curious thing was, that out of between seventy and eighty men invited, only nine men came to the Home, and only three of these remained, proving that six men had come in the hope that they would after all not have to work. Only three men remained, showing a percentage not very much above 3 per cent. in this case also.

Loafers: unemployed.

Illustration.

8453. I am sure that is very interesting evidence. I would like to ask you one question about your Dublin open-air gymnasium. I should like to know something as to the system which is pursued with regard to the pupils who come to the open-air gymnasium. Are they selected in any way?—Not in the smallest degree. You are aware, I have no doubt, that the same thing exists in the London County Council parks in the open-air gymnasia; they are on the same principle. It is a good deal owing to my originally having started it in Dublin that I got them to do the same thing in the London parks. Those in Dublin are my own private ones. When a certain suitable space falls vacant, instead of rebuilding the houses, I throw the houses down and plant the outskirts of the ground, and divide it into two portions usually with a railing, one side for girls and the other side for boys. We have swings and giant strides and horizontal and parallel bars, a cat gallows for jumping and a pole for climbing, and skittles; and on the girls' side we have, in addition, skipping ropes attached to a central pole. A central pole is put in the ground like that (*showing*), and there will be half a dozen skipping ropes attached to a ring, so it only needs two girls, one skipping and the other swinging the rope; it does not require three girls to skip, and they can skip round that. And then, for the children, sandpits, with clean sand put into a pit of concrete, and the children think themselves at the seaside, and make tunnels and forts, and seats are placed round for the mothers. Then nobody is allowed into the girls' part except the mothers; women and mothers and children, boys up to ten years of age.

Open-a gymna

8454. You have laid some stress on the importance of systematic instruction in physical exercise?—Yes.

8455. What I should like to know is, how far you find you can impart the system of instruction in your open-air gymnasia?—The principal object of appointing a caretaker, who should also be a trained instructor, is to prevent any accidents, and to show the children how to use the apparatus. The actual instruction was carried out, as I told you, for two years in London here by our Metropolitan Public Gardens Association, where we had an instructor who went round and held classes, say, from eight to nine o'clock, in one ground, and from ten to eleven in another, and twelve to one in another, and so on. That is the way it was done; for an hour he held classes.

8456. Is that gymnasium open for certain hours in the day?—During the whole day, except during the luncheon hour of the caretaker, and also, I may say, for certain school hours for school children.

8457. My questions are directed with the object of getting information as to what use can be made of a more or less public gymnasium for children on Saturdays, for instance?—I would ask some of you, if you have not already done it, to visit some of the gymnasia and playgrounds kept up by the County Council. There is a very good gymnasium on the site of the Horsemonger Lane Jail in the south of London; it is worth visiting.

8458. *By the Hon. Thomas Cochrane.*—I think your statement is extraordinarily full and so informing, but I should like to know exactly the kind of recommendations you make. I gather from reading your statement that from the beginning in the elementary schools you would have physical education taught?—From the very beginning.

8459. Under the teachers with qualified supervision?—Yes.

8460. And that you think more playgrounds should be supplied?—More playgrounds, yes.

8461. And that qualified caretakers should be appointed to teach organised games and gymnastics?—To teach organised games and gymnastics. Now, for instance, in London, if I had only voluntary teachers, I could have any amount of single-wicket games of cricket played, but I have not got them. I daresay some of you have seen the splendid games of cricket that are played on board liners going out to Australia or America. They always play cricket; the stumps are put into a sort of stand, and then it is so arranged that when the ball touches it the stumps all fall back. These marine cricket stumps, and soft hemp balls, would be admirably suited for use in city playgrounds. The difficulty is in the asphalte pavement, that you cannot stick the stumps in. There are soft balls made and used on board ship; they are made of hemp. Fives courts are also admirably fitted for giving violent exercises in a small space of ground, but unfortunately here comes in the question of supervision. In Baker's Row, in the east of London, a gentleman, at his own cost, erected a charming playground, and built two Eton fives courts. Well, it sounded a splendid idea; I was delighted at the time, but I believe they have never been used except for immoral purposes. The other day the Rector of Whitechapel was staying with me, and he told me that they were very seriously thinking of getting up an agitation to close this and some other playgrounds; not that he was not in favour of the fives courts, but, he said, in these shelters and fives courts and places, oh! horrible things go on, and that is simply and solely because there is no caretaker—because there is no proper care-taking, and because you cannot get the authorities to see to it. These grounds used to be under the charge of different Vestries. They are now under the Borough Councils, but I doubt whether there is very much improvement.

8462. In addition to providing further facilities, those that exist should be better looked after?—That is it. The first thing is to get those that exist thoroughly utilised.

8463. And do you suggest the authority in whose care they should be placed?—I do not see how you could interfere with the authority, the Borough Councils and the different Municipal Councils of other towns; you can hardly interfere with them, can you?

8464. Their attention should be drawn to the matter, you think, to the necessity?—Yes.

8465. And trust to them taking steps?—I do not see what other steps could be taken.

Continuation Classes: physical training and Cadet corps.

8465A. After the children have passed the elementary school age, you suggest for their further physical training, evening continuation classes at which physical training should be a compulsory subject?—Yes.

8466. And the formation of cadet corps?—Yes.

Uniform.

8467. Do you find any difficulty in the formation of cadet corps from the War Office regulations regarding the wearing of uniform?—Yes, certainly; I think it is a great mistake. I do not see what the necessity for having a uniform is. I think a badge would be quite sufficient. All you want to know is when you see a line of lads drawn up in front of you in company with other lads, which lads belong to your company and which do not. All that could be done very simply by a conspicuous badge of some kind. That is all that special constables wear. I remember being out in 1868 as a special constable, we only had a handkerchief round our arms. That was quite enough, we knew if we were in a row that it was our duty not to break the head of anyone who had a handkerchief upon his arm. That is all that is necessary. Of course there is this you must remember, that if you want to induce the lads to join, the uniform is a great attraction, but as far as the actual drill and physique is concerned, uniforms are unnecessary, and, moreover, are hampering. That is one of the things that our Lads' Drill Association has got out of the Government; that they do now permit a Norfolk jacket without a tight collar.

Compulsory attendance.

8468. Then to deal with those whom neither evening continuation classes nor cadet corps would attract, you favour some system of compulsory attendance?—I should certainly, as far as continuation schools are concerned.

8469. How could you enforce that?—The same way as the elementary schools. I should get information as to how it is done in Germany. We know that the German waiter after his day's work has to go and finish his course at continuation schools, if he has not already gone through it.

8470. What can be done elsewhere can be done in this country?—Can be done at home.

Boys and girls.

8471. *By Sir Thomas Coats.*—I suppose you would advocate the same physical training for boys and girls in the elementary schools, up to say fourteen?—Yes; that is so. Of course you could not have exactly the same unless you have already arranged a regular course like the 'model course,' which has been drawn up with a view to its being carried out both by boys and girls, and that is what I should like to see adopted in all elementary schools.

8472. Then after they had left the elementary schools, would you advocate continuation classes being made compulsory for girls also?—I should; it is in Norway and Sweden, and I certainly should like to see it here. I believe it is just as much needed.

Physical training for girls: advantages.

8473. Then you would confine physical training, I suppose, in the continuation classes?—I would. Perhaps you would allow me to remark, as I daresay you are aware, that there are classes of physical instruction in connection with many of the Polytechnics. There are some also established for the use of factory girls, and other young women up to twenty-five and twenty-six years of age, and as I am known to be interested in this, and also as I am Chairman of an Association called the British College of Physical Education, I am invited sometimes to give prizes, and I can assure you it is a most extraordinary thing to see the effect of physical exercises on these factory girls. Factory girls that you see going about in the streets, loud, ungraceful, physically ugly to our eyes, after a certain time, say six months of physical exercise, when you see them in their neat costume, upon my honour, I think you would be puzzled to know what class of

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girls they were; I think you would think many of them were ladies, so different they are, so graceful. I do not suppose their minds are altered in any material degree, though even of this I am somewhat doubtful, but they have the appearance of modesty and refinement, simply and solely from going through training in physical exercise and coming into contact with tidy teachers.

Playgrounds: educational authority.

8474. *By Sir Henry Craik.*—You spoke in answer to Mr Cochrane of the necessity for keeping up this gymnasia or playground?—Yes.

8475. And you saw no means of doing it except through the ordinary Local Authority—the Borough Councils?—Yes.

8476. But if this is a necessary part of education, would you not be prepared to lay it upon the educational authority?—Certainly, if the educational authority would do it.

8477. But do you not think, if it is an essential part of education, that it ought to be considered just as important as providing ordinary education?—Certainly, that would be in connection with schools.

8478. Yes?—But what I am speaking of is not the playgrounds in connection with schools; I am talking of the playgrounds which are kept up by the Borough Councils and by the London County Council.

8479. But these must have an educational character, evidently, and be under charge, if they are to be of any use?—I quite agree.

8480. And therefore perform a very considerable function in education?—Certainly.

8481. *By the Chairman.*—To ensure that any Borough Council, or the London County Council—I am not saying School Board, because there is not the same necessity, especially in London—to ensure that any Borough Council or the London County Council doing its duty, you would require, would you not, to have public opinion very differently formed?—Yes.

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8482. So as to lay it down at the time of an election what was wanted to be done?—Certainly.

8483. Without that you could hardly expect it?—The difficulty would be that the Borough Council would not like to give up its power as regards its playgrounds, if you mean that.

8484. No, I mean a Borough Council had something put into it by the electorate, what it is to do?—Yes.

8485. Possibly, if the electorate was not very keen about it, the County Council would shunt it?—We want to educate public opinion, and keep on urging. We find we have public opinion in favour of it.

8486. You said you had no knowledge of anything of this kind in Scotland. Is that really the case? I happen to know some Scotch connection?—I am not aware that I know of anything particularly in Scotland.

8487. So that we must take London to set against?—I possess a certain knowledge of the requirements of Manchester, Liverpool and Birmingham, as well as of London, in this particular in connection with my Garden Association. I have had to visit these towns with that view, and I have gone through them, and Manchester was one of the first that started a public gymnasium. There was a Mr Armytage, one of the great manufacturers there, who established a private gymnasium and playground for his own employees. That was one of the first open-air playgrounds fitted with gymnastic apparatus which was established in England, and seeing his playground gave me the idea that I would make my own playgrounds in Dublin.

The witness withdrew.

The Rev. A. L. Lilley, examined.

Rev. A. L. Lilley.

Rev. A. L. L

8488. *By the Chairman.*—You appear before this Commission as in the capacity of one much interested in the present and future of boys and girls at school?—Yes.

8489. And may I say after school age?—Yes, especially after school age.

Boys' and girls' clubs.

8490. Will you kindly read your notes?—I shall confine myself to the opportunities of physical training offered by boys' and girls' clubs, so far as I have had personal knowledge of them in London. During ten years' experience as a parochial clergyman in London, I have myself been engaged in the direction of such clubs, and have learned something of many others—all worked on very much the same lines, and with very much the same objects.

Object.

Object.—The principal object of these clubs is to continue the work of the elementary schools after boys and girls have reached the school age limit, so far as that work has to do with the formation of character. Especially in the case of boys' clubs, the membership is usually confined to old pupils at the parochial day-schools, with, perhaps, former choir-boys at the parish church who had not attended the day-schools of the parish. The limits of age for membership vary, some clubs not receiving boys till they are sixteen or seventeen, others receiving them immediately after leaving school. But, even in the case of those clubs which fix the higher standard of age, there is usually a junior branch. In this way the boys' clubs form a connecting link between the parochial schools and the various young men's clubs and societies, which are now so common a feature in the life of town parishes.

Physical training in boys' clubs.

Physical training in boys' clubs.—There is a considerable variety in the physical training which these clubs offer. In nearly all of them gymnastics prevail. All kinds of drill, the use of Indian clubs, the parallel bars, and horizontal bar and boxing are the usual features of a gymnastic class. Then there is always a cricket club in the summer, and a football club in the winter, and a swimming club. In many places swimming is popular all the year round. In others it is confined to the summer months. Arrangements for the swimming clubs are made with the committee of the local public baths.

In girls'

Physical training in girls' clubs.—This is confined almost entirely to physical drill and figure dancing. Musical drill is very much used, and Indian clubs are also a favourite help to physical exercises. Here and there swimming is encouraged. My knowledge of girls' clubs is much less than that of boys'.

Use of th clubs.

Use made of these clubs.—Wherever clubs are started they are successful in attracting large numbers of boys, and, I think, I might add girls also. Girls' clubs are not so numerous. Of course, not all the members take advantage of all the different forms of training provided. Indeed, as a rule, the cricket, football, swimming, etc., clubs are societies within a society. But there is very seldom a member of the boys' club who does not belong to one or other of these sectional clubs. Indeed, almost the sole attraction to membership is the opportunity for physical training (which the boy calls amusement) which it offers.

Advanta

Advantages of club system.—Those who have had some acquaintance with these clubs know how much healthier and more developed is the boy who belongs to one of them than the average boy of the same class. Naturally, advantages of physical health and vigour translate themselves into moral advantages. One finds more energy and initiation, a greater mental quickness, a wider interest, and more self-control among them than is usual. No doubt it is partly because it is exactly the lazy and apathetic boys do not care to join a club after their day's work, and only those who are naturally more energetic will do so. But it is also true that a great and steady transformation in general character is a noticeable result of club work. Self-discipline and a certain elementary but quite trustworthy sense of honour are gains of the club-boy character.

Suggestions.—I think the club system is sufficiently well-established to be accepted as a kind of basis on which to build up a publicly-recognised system of physical training continued from that given in elementary schools. What is needed is that some recognised centre of local life, such as a church or a school, should be encouraged to provide in every district a club for those leaving school—with physical training as its most distinctive feature. It is hardly to be expected that the school teachers, wearied with their day's work, and living (at least in London) at long distances from the school, should undertake such a work as this. As a rule, the churches are found to be anxious to provide workers, plant, buildings, and money. In addition they are, as a rule, establishing in these clubs merely an extension of the teaching and training which they have already given in their schools and given to the same children who afterwards join the clubs. It is true that they cannot deal with the whole mass of children above school age who ought to be provided for. Some kind of inducement ought to be offered by the Board of Education to additional local effort of a voluntary kind. Some recognition of boys' and girls' clubs, as performing a public educational function, would give a very great fillip to a work which is now often a severe tax upon the energies of the parish clergyman; I mean really upon the energies of the local committee. It would enable him, or it, to get the necessary funds more easily; it would lay special stress upon the physical training side of club work; and generally it would accentuate, on the one hand, the interest of the local public, and on the other the sense of public responsibility on the part of the club management. Perhaps occasional, perhaps regular, inspection by an officer of the Board would be the most potent means to this end. There is a section of the boy population of large towns which—of course I mean especially in large towns: I do not know whether outside London it is exactly of the same character—completely escape the widest net that voluntary effort can cast. It remains a problem—exceedingly difficult of solution—how to deal with it. It is a section which is becoming more and more dangerous, because of its frank and defiant indiscipline. It is the recruiting ground of criminality. Certainly here some means of compulsion more effective than those which already exist ought to be provided for this class—boys who are openly defiant of all parental control, or whose parents are themselves criminal, or indifferent to their parental responsibility. Compulsory physical training might save this class where nothing else can.

8491. Your experience in London is, I suppose, purely confined to your own church school?—Yes; purely to parochial work, to parochial clubs.

8492. The clubs really all come, do they not, from the church school?—Well, they are church schools; they are closely connected with the Church; they are called National Schools by the Department.

8493. The two names are synonymous practically?—They are synonymous.

8494. I think the most interesting problem is that in the last paragraph of your evidence. You were to get hold of that boy that nobody else gets hold of. You advise compulsion; what do you mean by compulsion?—Well, I think all boys who are not at work after they leave school, who are not in some kind of work which might be classed as being occupied for four or five hours a day or more—a boy who is not so occupied ought to be compelled to attend some further course of training.

8495. By whom?—By the school officers.

8496. That is by the Department practically?—Practically by the Department.

8497. In order to cover all classes of schools?—Yes, by the educational authority; probably under the new Bill.

8498. Do you think from your knowledge as a clergyman of a parish that there would be much difficulty in enforcing that?—I think there would be a great deal of difficulty probably, but I think it can be done.

8499. But may I ask you: in your own parish, for instance, what executive authority is there at present existing by which such compulsion could be enforced?—The only authority is the school attendance officer of the London School Board.

8500. Let me understand you; has the school attendance officer of the London School Board any authority over your National School children?—Yes.

8501. He has no authority over them after they have left school?—After fourteen years of age, after the school limit is reached, he has no authority over any child. All I wish to do is to extend that authority for at least two years without extending the school age limit to the extent of compelling every boy to attend school until he is sixteen years of age. I would compel those who have not got regular work during those two years to attend classes during that time—evening classes if possible.

8502. That would include not only the boys that have been brought up by the School Board, but would include your own boys?—Yes, certainly, of course.

8503. After school age?—Yes.

8504. How would you propose that the expense to be incurred thereby should be met for the whole boy and possibly girl population?—You mean of providing teaching, teaching capacity.

8505. There would be bound to be expense of some kind; how would you propose that that should be met?—The teaching capacity, I mean the training capacity, the clubs or evening continuation classes which exist at the present would give ample opportunity, I should think, for all boys.

Hooligans and continuation classes.

8506. But would the clubs existing at present be large enough to accommodate all the hooligans who would be compulsorily ordered to attend them—surely not?—Possibly not, but I should say that certainly the evening continuation classes at the schools, which is what I desire more than the actual club. The actual club is distinctly of a voluntary nature. It would possibly be impossible to get the present club membership to coalesce readily with the compelled membership. The present club membership would not at all fit in, I should think, with the others, but there are always the schools in every district. I know clergymen would be willing to offer their National Schools. The Board, of course, would be equally willing to offer their schools, both of us anxious to get the children into these evening continuation classes if possible, and I think most of us anxious to make the principal work physical as a basis for everything else. The only hope we have about a boy, the roughest class of boy, is to train him physically and to get him under a certain discipline which would be connected with physical training.

Girls.

8507. Would you apply that in a modified way to girls too?—There is a class of girls, a very small class.

8508. Oh, no, but I meant to the girls at large in a modified way?—I think it is equally important in a modified way.

Medical supervision.

8509. Probably under medical supervision?—Yes.

8510. I mean, you would not be against it?—Certainly not.

8511. And you do not think it would do them any harm?—I think it is of importance for a certain class of girl in London.

8512. Provided such girl has no regular employment?—I think there ought to be no compulsion.

8513. Suppose she is a maid-of-all-work, how would she be able to attend continuation schools and do physical training?—I should not propose that compulsion should be employed or recommended in such cases.

Compulsion with exemption.

8514. Therefore you would advocate compulsion coupled with very large powers of exemption?—Yes, with exemption for all who are engaged in any kind of work that you could call regular, regular wage-producing work, or in the preparation for such work. Of course that would cover a boy who is perhaps up till sixteen or seventeen years of age engaged in some further kind of preparation for his life-work and yet is the son of a working man: there are such.

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8515. In connection with this special inquiry, you have no knowledge of Scotland?—No, none.

8516. *By Mr Fergusson.*—Your experience is not confined to Paddington, I suppose?—No; my experience was principally gained in Chelsea, in Holy Trinity, Sloane Street, when there was a very poor district in that particular parish.

8517. And in other districts of London?—I know most parts of London, and the nature of club work in most parts of London.

Physical training in church schools: depends on the management.

8518. Now, let me ask you two questions which are not touched on in what you have read. In the elementary schools, in the church schools, is there any regular system of physical training at present in existence?—Not universally; physical training will vary with the different schools.

8519. But does that mean that it varies with the different clergymen?—Practically, I should think with the management certainly.

8520. If you are in favour of physical training, you see to it in your schools; if you are not, there is no physical training; is that so? It depends on the clergyman?—It depends entirely on the management.

Compulsion desirable in elementary schools.

8521. Do you think physical training in the elementary schools should be made universal and compulsory?—Yes; I think it should be made universal and compulsory, certainly.

8522. You are judging that from the facts which have come under your notice?—Principally, and also from its moral value. I think it is the only sure basis.

Weak and under-fed children: how dealt with.

8523. In these poor districts you meet with a lot of children who are physically weak and who are underfed; how do you deal with those in your church schools?—Well, we have no way of dealing with them as a parish; they are dealt with by a central organisation, the Childrens' Dinners Association, and the teachers of a certain district hand the names of the children whom they recommend for such feeding, such dinners, to the local secretary, and they are there fed. We send about a dozen half a mile or so.

8524. Then that is done by the schoolmaster?—That is done by the schoolmaster.

8525. Who has instructions?—Yes.

8526. Do you try to get at the reason why they are underfed, and deal with the parents in any way?—Well, you see we deal with the parents very largely through our district relief committee, which is a local committee presided over by myself, and consisting of representatives of such bodies as the Charity Organization Society. A representative from their local committee sits upon the committee, and a number of local tradesmen who know the needs of the people of the parish and their circumstances well, and through that society we are in touch with all those who are in need, and whose families are like to be underfed on account of their needy circumstances. It is in that way that we know, and not through the school.

8527. Does that system deal efficiently with your underfed children?—Yes, I think so. I think that really very seldom we have to send children to the Children's Dinners Association, as perhaps not more than two or three families go in the course of the winter. Of course, none at all in the summer, because they are relieved through our own private relief committee.

Continuation Classes.

8528. Now, as to the continuation classes, let me understand exactly what you propose—that continuation classes should be compulsory, with large exemptions in individual cases?—That is practically my proposal. I have my eye principally on those who cannot be made by any other means, so far as I can see, than compulsion; who cannot be trained by any other means except compulsion. That is to say, if you cannot have compulsion, you leave out a large class that you want to get at.

Physical training should be made an attractive subject.

8529. Would you make physical training one of the subjects—or the only one?—It is the one that I should desire compulsion most for, but I should not make it the only one, nor desire that it should be the only one.

8530. Suppose I, as a boy, say, 'I do not want to 'take physical training; I want to take mathematics,' would you allow me to take mathematics and serve my time that way?—That is already provided for—the evening continuation schools.

8531. No, but if it was compulsory. I might take up any other subject, and I would not be compelled to take physical training as well?—I would certainly advocate that, that a boy whose tastes were intellectual, and who showed a desire to take up other work to prepare himself for intellectual pursuits, I should certainly advocate his being released from the necessity of passing any kind of physical training.

8532. You would make physical training one of the subjects and an attractive subject?—Yes.

8533. And your opinion is founded upon your experience, that a large number of boys would go in for that?—Practically all. My experience from clubs certainly is that all would take advantage of the physical training side.

Girls: compu... inadv...

8534. One exception you would make is girls; you would not make any compulsion for girls for any classes whatever?—I should like to, but I think it would be impossible and inadvisable.

8535. To make it compulsory?—Yes.

Hooli... physi... traini... advoc...

8536. You consider that for the roughest element 'the hooligan,' the great hope is giving them physical training?—Certainly, because they are boys who naturally love adventure; they have splendid qualities nearly all of them; some of them of course turn into mere savages, become cruel, but as a rule they are boys who have a certain spice of the love of adventure in them and they like physical exercise of all kinds, and that would be a very great discipline, the regular physical training, in the case of such boys. One sees from Boys' Brigades, the work of Boys' Brigades, how much can be done. Of course I have not referred to that particular work here, though it is a very common branch of our work, because I knew that would be a special department.

8537. You think the managers of the Church School would welcome any system of that sort and give every assistance to it in their power?—Yes; my experience is that they would very generally, especially all the younger clergy of the Church of England; I am sure there is a very very general desire to enlarge and develop the possibilities of these clubs.

8538. And of physical training?—And especially of the physical; that, I think, is the element most dwelt upon.

8539. *By Mr Alston.*—We have ascertained from your answer to the Chairman that these clubs are entirely under the control of the Church authority?—Yes.

Clu... inst... too...

8540. And that you thoroughly approve of the advantages of these clubs, but that you think that they do not go far enough?—Yes, I do think so.

8541. Is the training thoroughly efficient in these clubs of yours?—It varies very, very much indeed. Occasionally, where we have a good instructor, sympathetic and skilful himself, the training is most excellent, quite excellent.

8542. Who are these instructors?—Of course they vary very much indeed, but as a rule we get trained instructors.

8543. From the outside, not from your schools?—Oh, from the outside. We often pay instructors. In my present parish we have not got one, that is only because I have a very excellent member of my own parish who is an excellent gymnast and takes all that work upon himself, and has done for years.

8544. That would be exceptional, however?—That is exceptional.

8545. Then, unless you get your efficient instructor, your physical training in the clubs may not be of the very highest quality?—Certainly not.

8546. Is that a difficulty that you find?—One of the things that I most desire is that the clubs may be recognised by the Educational authority in order that we may have efficient teaching.

8547. But you think that the Education Department should enforce physical training in the continua-

tion classes?—I do think it would be a very great advantage; yes.

8548. But probably they may not continue your clubs?—Well, you see, they do so in the case of girls' clubs already.

8549. Do they?—Well, I mean they do not, of course, provide gymnastic teachers for those clubs, but they provide for the girls' clubs; the Evening Continuation Schools Committee does provide teaching in any department which the girls like to take up, which is recognised in the Evening Continuation Schools Code. My proposal, then, is that the Code should cover gymnastics or physical training as it covers branches of intellectual and manual training, such as cookery.

8550. And the Education Department would recognise clubs?—They recognise clubs already very largely.

8551. In England?—Here in London; yes.

8552. You made the remark, in answer to Mr Fergusson, that the intellectual aspiring boy might be allowed to take his intellectual course in the continuation class and be free of the physical training?—If he desired. I thought it very improbable that he would desire that.

8553. But you laid some stress in one part of your evidence here that the physical training is necessary, even for the intellectual boy, that all his powers should be increased?—I think so very much, and the point I understood Mr Fergusson to raise was whether there was a very decided objection on the part of a full-grown boy to taking part in physical training, as there might possibly be, whether we should use force. I thought that a boy who was engaged in intellectual cultivation had probably some clear idea what he was going to do in life, and was just one of these boys that would elect for himself; would not need force.

8554. You would let him off?—I would let him off.

8555. Suppose a number of boys, not at all intellectual, took that attitude, desirous to escape the physical training, not to be troubled with it, you would hardly make the rule of letting off general?—I should regret it very much, but I do not know that I should still compel in these cases.

8556. Your evidence before us has pointed to the difficulty of getting boys to attend continuation classes and physical training, that is to say, there was not sufficient attraction to bring the boy in, hence considerable stress was laid upon the necessity of making that compulsory?—Yes.

8557. Would you think that that was justified?—I think that for a certain class of boy it is absolutely essential; it is essential to make this compulsory.

8558. Whatever he thinks, you want the rough boy to be brought under discipline and kept under discipline?—I want the rough boy to be brought under discipline, because I know he would not have any intellectual interest; the boy who has any intellectual interest, I would not compel him.

8559. We agree with you as to the necessity of physical training for boys, but we think it equally advantageous for girls; you do not think the same restriction should be placed on girls as boys?—Equally advantageous and equally necessary, I think it is almost impossible. The conditions of girl life, their connection with the home, make it next to impossible to enforce it in the same way, to make it compulsory in the same way.

8560. Then there is this one other point—you refer to the brigades, the Church Lads' Brigade, which is entirely connected with your own Church. Do the officers there help you in these matters at all, in connection with the physical training in clubs, for instance. You ought to have very capable young men in the Church Lads' Brigade. Are they not available in your clubs?—Oh, always; they are amongst our best workers.

8561. Is it not possible to dispense with the outside instructor, and depend upon the men within your Church?—Well, yes, I think it may be often; but it is an excellent thing, if you want to develop the very highest quality and the highest interest in gymnastics, to have a very first-rate teacher.

8562. Still, an expert from the outside might supervise the drill and the instruction of the voluntary worker within?—Yes.

8563. I mean, could not this organisation, which belongs entirely to your own Church, be made available in a great deal of the effort you are putting forth for the physical training of your boys?—I do think so. May I just say, with regard to the gymnastic training, it very often happens that a club is very large, and the gymnastics are not the particular form which the boys generally like most.

Applied gymnastics: caretaker.

8564. Then let me ask about the word 'gymnastics'; does that mean applied gymnastics, with apparatus?—Yes.

8565. Then do you exercise proper supervision, either medically or otherwise—that is, the care taken of the boys when they are performing on fixed apparatus?—Yes. You mean, for instance, with regard to heart disease.

8566. Oh, yes, and accident from the misuse of any of the apparatus?—Oh, yes, one is always careful about that, very naturally; I mean, testing the apparatus.

8567. Because a witness has told us, that when the caretaker was unable to attend the gymnasium, that was the day—namely, the Saturday holiday—when the accidents took place. It is clear, therefore, that there is always a necessity for guarding against accident with fixed apparatus, the use of which may be hurtful?—We are always careful to have a person in authority all the time the club is open, and there is very seldom an accident.

8568. Then, practically, it comes to this, that, while your clubs are admirable institutions, they cannot cover the whole ground which you desire to see covered?—Oh, certainly not.

Intellectually disposed boys and physical training.

8569. *By Sir Henry Craik.*—About the point Mr Fergusson and Mr Alston asked, would you, suppose a boy wishes to turn his attention chiefly to physical training, relieve him of the necessity of having intellectual education?—After fourteen?

8570. Yes?—Yes.

8571. Not even earlier?—No.

8572. Do you not think the two things are complements one to another?—Yes.

8573. There are some lads of fourteen to eighteen who might take up certain intellectual lines which would not be peculiarly healthy, and which might have specially to be counteracted by some physical training?—I think it is hardly probable in the class with which we are acquainted, and with which we are dealing. I do not think so; I do not think there is any danger.

8574. You have no fear of allowing them to give it up altogether?—I should regret extremely that any boy should. I think, on the other hand, that if you find a boy prefers never to do so who is engaged in preparation for his life-work, it would be dangerous; it would be wrong, I think, to interfere, and say, 'You must take 'up this particular thing; this is indispensable to your 'continuation school work.' I should not advocate it.

8575. If the nation is to depend in any way upon our Volunteer forces or the physical strength of our citizens, is not that relieving a certain class from their obligation in order to pursue their own objects?—Even so; I am prepared to face that risk.

The witness withdrew.

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Mrs BRYANT, examined.

8576. *By the Chairman.*—What is your position in the North London Collegiate School for Girls?—Headmistress.

8577. How long have you been so?—Since 1895.

8578. That is one of the schools founded by Miss Frances Mary Buss?—Yes.

8579. Is it the only one she founded?—She founded two schools, this school and the Camden School for Girls, which is also in the neighbourhood, and is a cheaper school, and I may say that the same system of physical training is carried on in the second school as in this school. It was carried on under Miss Buss' own supervision until she died in 1894.

This school was founded in 1850 by Miss Frances Mary Buss. Suitable buildings were provided by endowment in 1879, and the general scheme of physical training, in all the main features as described, was established in 1882. The number of pupils varies from 440 to 500. Number at present, 443.

Ages of pupils distributed as follows:—

Years of Age.	Number.
8	2
9	8
10	8
11	14
12	40
13	45
14	64
15	73
16	85
17	62
18	35
19	6
20	1

Accommodation.

The school buildings include a large gymnasium, well-equipped with suitable apparatus. There is only a small playground, with three fives courts, and a field is also rented for hockey, tennis, and other out-door games. The gymnasium is used daily for games, including corporate games of skill, such as the new game called net-ball, or basket-ball.

Physical training described.

Physical Training by Gymnastic Exercises fall under three heads:—

(1) Two half-hour lessons per week as part of the regular school course. Exemption allowed if pressed for by parents on reasonable grounds shown. Also those who are physically unfit are exempted by school requirement. Total number exempted at present, 26; 6 per cent. Necessary, and not quite easy, to secure suitable conditions as to dress, etc. Effects of physical training in showing and gradually correcting defective nervous balance and control in nervously unsteady girls. Training to habits of attention and self-command. Reaction on intelligence. Simple apparatus, such as hoops, dumb-bells, wands, clubs, used, as well as free exercises. Uses of these. German methods.

(2) Special courses of physical training for those who show any tendencies to any metrical or inadequate development, generally for an hour twice a week in the afternoons. No extra fee. Number thus treated at present, 24 per cent. Many cases of curvature certainly prevented. Instances of after-trouble in cases when parent fails to consent to treatment, as occasionally occurs. Satisfactory improvement in physique and bearing noticeable. Use of spinal desks.

(3) Voluntary class one afternoon a week open to girls not excluded under (1) or included under (2), actually the class of school athletes. Gymnastic fixed apparatus, ladders, ropes, swinging-rings, parallel and horizontal bars used. Small fee paid. Permission from head-mistress to join is required, and is not granted to girls whose medical record is not sufficiently satisfactory. Pupils under fourteen generally excluded. The number in this class at present is 40, or 9 per cent. Trained teachers (certificate of British College of Physical Education) employed throughout. Staff of four, one being also a form mistress, who acts, moreover, as superintendent of the games in school.

Medical inspection.

Medical inspection is pre-supposed in this scheme. The medical inspector is always a woman; at present Miss Julia Cock, M.D., who wrote a valuable memorandum on the subject, with statistics up to date for the Report of the Royal Commission in 1895. Every pupil seen about once a year, and girls requiring care about once in six months. Four or five visits of three hours each are paid during the term. Work could not be done in this time without the aid of a very efficient secretary. This system of inspection in operation since 1882.

Object and result.

Objects and Results of Inspection are:—

(*a*) To prevent violent exercise being encouraged or allowed in cases when on account of defect or weakness (sometimes only temporary) of heart or lungs it is inadvisable. *See* exemptions under (1) above, and refusals under (3), which latter are made on reference to pupils' record in Medical Inspector's book. Five per cent. of such cases occur in the last 1330 observations.

(*b*) To discover cases which require special physical training under (2). Serious cases are reported to parents as requiring more thorough treatment under constant medical advice. (The work of the school for physical development by no means takes the place of individual care for health at home.) These are very few, but out of the last 1330 observations made, special exercises were prescribed for 30 per cent.

The defect, very common in a town population, of flat or flattish feet, may be noticed under this head; 35 per cent. noted in these 1330 cases. Much improvement effected by suitable foot exercise.

(*c*) To discover any special physical infirmity to which the attention of parents and teachers should be drawn, especially those such as defect of eyesight or anæmia, which affect or are affected by school work. Examples: 107 cases of eye defect (some very slight, some serious) occur in the 1330 cases—*i.e.*, 35 per cent.

(*d*) A record of anthropometric observations on each pupil is kept, as in specimen page of Record Book appended. Important measurements, height, weight, chest girth, waist girth, head dimensions. Table of averages is appended.

Games organised.

Games such as hockey and tennis organised by clubs governed by committees formed of pupils elected by the club and teachers, one at least of whom is selected by the head-mistress as vice-president, and responsible to her for public order and safety. The other officers are the captain, a pupil, and the treasurer, a teacher, both elected.

For ordinary games in school each form has a games club and captain of its own. There is one head captain of all these games clubs, who must be in the Sixth Form. Athletic sports are held once a year.

Swimming.

A swimming club is formed for the summer months, with organisation as above.

Matches are played with other schools, but these are restricted to the seniors, and not allowed to become too frequent, lest there should be too much excitement, too much distraction, or too much fatigue.

Gymnastic.

8580. You say that the physical training by gymnastic exercises falls under three heads?—Yes, in the first place there is a certain amount of physical training which is part of the regular school course and takes its place in the morning school together with the other studies as one may say; there are two half hour lessons a week, and all girls attend that unless they are exempted for some particular reason. The reason is generally one which we allege, because we think the girl unfit for

violent exercise, on account of weakness of the heart, or weakness of the lungs, or other reasons, which we make it our business to discover. That is a very important part of the whole system. All girls under medical inspection, so that we may be sure we are not doing any harm.

8581. You do have it under medical inspection?—Every girl is inspected. I thought you probably would like to know about the number that are exempted. A certain number are exempted also by some special wish of their parents. One tries to prevent that as far as possible by persuasion, when there is not a medical reason; but as a matter of fact about 6 per cent. are exempted on the whole, and some 5 per cent. of those would be by our decree; a very small number, but still some.

8582. Then you go on to No. 2?—No. 2 is the most important class of all. The medical inspection enables us to find out not only the girls who ought not to have any violent exercise, but also those who ought to have some special exercise, because of tendencies to lateral curvature or other defects, *i.e.*, asymmetrical or inadequate development. These come back in the afternoon, generally twice a week, sometimes once a week, and have special gymnastic exercises, which are prescribed by the medical inspector for the purpose. In the third place, there is the volunteer class of girls, who choose to come. They pay an extra fee, and have a more advanced course, with the usual gymnastic apparatus, climbing of ropes and ladders, parallel bars and horizontal bars, and so on.

8583. That is also under medical control?—Not exactly in the same way.

8584. But it is under medical control?—Yes, it is under medical control in this way. The medical inspector does not take any responsibility as to saying what those girls are to do; but when a girl applies to be admitted into that class, I do not admit her unless I find that her record in the medical book is satisfactory. I take the responsibility, because I hold that it is better for me to make a mistake than for her to make a mistake. So the girls whose medical records are not sufficiently good are excluded from that class, and also the very young girls. We think that the evidence goes to show that it is not advantageous for quite young children to have gymnastic exercise with apparatus, so that we do not let them in under fourteen years of age as a rule.

8585. And your medical inspector, you say, is always a woman?—She is always a woman, yes; she sees the girls when they come into the school: she comes about five times in the course of a term, and all the girls are brought up to her one by one, and each case recorded. I have brought down the record book.

8586. Would you mind handing it round?—I have also brought, for convenience, copies of a page, which may be kept. All the girls are seen soon after they enter, and the inspection is conducted in two stages. She sees them, in the first instance, makes a general observation, tests their eyes, and takes the measurements, and so on, and then we send a note home to the parents to ask if they will allow the child to be inspected fully. We do not do that without getting permission from home. This has avoided many difficulties which might otherwise have arisen.

8587. Is there much trouble in getting that permission, as a rule?—No; it has never given us much trouble, but it required, in the beginning, a good deal of persuasion and talk sometimes, and even now that occasionally happens. Only to-day I had a letter from a mother, who said she did not object if she might be present; but that is very rare. Then, of course, she ascertains carefully whether there is anything wrong with the girl's growth, and we deal with defects accordingly by the afternoon exercises.

8588. Then you go on to state the object and results of the inspection, and also I see that special cases are considered, and so on; and that flat feet comes under that head, and eyesight. I suppose eyesight gives you a lot of trouble?—Yes; I should like to say a word about both these points; they are especially interesting in a town population. The prevalence of flat feet is entirely due to town life, and the difference is very striking when children come up from the country; the country children have better feet.

8589. The fact that they are living in the towns rather produces or encourages this defect?—Yes, and it can be corrected by certain exercise, tip-toe exercise, and so on, which country children get naturally.

Measurements: anthropometric observations.

8590. This book that has been handed round is the record of the anthropometric observations?—Yes, and the medical observations.

8591. Has that record obtained over a certain number of years; how long has it been going on?—Since 1882—twenty years.

8592. It is very unusual?—Oh, it is very unusual.

8593. Was that Miss Buss' doing?—Miss Buss initiated it herself; it was entirely her own idea in the first instance, and she put the school gymnastics under medical inspection on the opening of the school gymnasium. Her ideal has gradually come to be recognised, but very, very gradually, and only very partially now. I do not suppose that there is any other girls' school in which they do it so thoroughly, or try to do it so thoroughly. May I say just something about eyesight? The number of cases which we find of slight defect—defect more or less—is very large, as will be seen from the percentage. Of course, that does not mean a large number of serious cases—the number of serious cases is very small—but there are serious cases that are never suspected at all by the parents. We frequently discover them. I see that Miss Cock in 1895 estimated that there were no less than 5 per cent. of uncorrected cases which we were able to remedy by drawing the attention of the parents to the fact, and getting them to take proper means. Another part of the system, of course, is to give the teachers sufficient information, so that they may look after the children, and see that the glasses are used, because that is very necessary. I should perhaps say that we do not attempt to deal fully with the cases of eye defect—defective eyesight. What we do is to draw the parents' attention to the fact that there is defective eyesight, and then get them to take the children to an oculist to be thoroughly examined.

Eyesight.

Games.

8594. Then you go on to say that various games are organised by the clubs, and so forth, under special officers, all of whom are girls, of course, naturally?—All girls, yes.

Swimming.

8595. And various rules are laid down as to suspension, and so forth, and there is a swimming club; where do you get swimming?—We have a new swimming bath at St Pancras now, but that is open for the first time this year. Hitherto we have used baths at Hampstead and Hornsey, which two districts send a very large number of our girls; but now we have a splendid bath quite near.

8596. That is the new baths that were opened the other day?—Yes; so we shall be able to do a good deal more with swimming than has been hitherto possible. I thought, perhaps, you would like to see our programme of last year's sports. These take place in a field now; we used to have them in the gymnasium. I thought that you might like to note both sides of the training—the games on the one hand, and the semi-medical treatment on the other.

Physical training for all except those physically unfit.

8597. *By Mr Alston.*—In these three sections the percentage in the first is 6, in the second 24, and in the third 9; that is 39 per cent. of your total number so treated; first of all, those physically unfit, then the tendency to inadequate development, and those in the gymnastic class?—Yes; this class is additional and voluntary.

8598. Does that account for a very small number still untouched?—All the pupils join the regular morning classes, except the 6 per cent.

8599. Then this volunteer gymnastic class has only 40 in it, or 9 per cent., of course there is other training besides for the remainder of the girls?—Oh, yes; the other training is the two half hours a week in morning school, which every one has.

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8600. This is rather an advanced class?—It is comparatively an advanced class.

8601. In that way your whole school roll of 443 is engaged?—Yes, they all have something.

8602. They all have something except those physically unfit?—Except those physically unfit.

8603. This medical supervision is constant; you say every girl is examined properly, and the data put down with reference to this schedule?—Yes.

Eyesight.

8604. Have you found, as so many expert witnesses have found, that the eyesight in a school, whether boys or girls, is one of the subjects generally overlooked except in your own case?—Yes.

8605. And it is rather a surprise to those who have taken notice of it, what defects in eyesight there are in both boys and girls?—Yes. I have a little additional experience of that in connection with the London County Council scholars. All the scholars are examined now by order of the Technical Education Board; but in the first instance it was quite a surprise to find how many of those scholars had something the matter with them. One very clever girl, I remember, came up to us. She had only one eye; nobody ever knew she had only one eye.

8606. That is quite in keeping with the evidence we have had?—That was one case, and there are many other cases where children suffer from headaches, and no one suspects the cause to be the eyesight.

8607. Have you made this observation that a good deal of the suffering of those young children, in consequence of bad eyesight undiscovered, arises from their close attention to their books and lessons?—I do not think I could say that is so. That has been said; our experience does not bear upon it. Our experience rather is that there are many congenital cases which have been neglected, and that in consequence work and happiness suffer.

8608. We have heard of the case in which the child could not read because it was so short-sighted, but it was not known to anybody; have you met with cases of that kind?—Yes.

8609. Then, of course, under your system of very careful medical supervision, you discover the ailment at once, and you take steps to remedy?—Yes; I remember two sisters who came in who were very backward, very dull to all appearance. We discovered at once that they had most imperfect vision, and had probably been accustomed to do their lessons without ever seeing them clearly. They were so accustomed to do this that it did not seem to them at all curious that they could not see what was going on. We had difficulty in persuading the parents of these children to provide them with the proper treatment, and even then they had to be constantly watched to see that they wore the glasses. Another case occurs to me of a very fine healthy girl, but who has defective sight. I have never been able to persuade her parents to deal with it; they do not like to see her with glasses. She never can play her music properly, because she cannot see it.

8610. Have you discovered any defect arising from the position of your class as they sit in relation to the window?—When the school was built—the school was built under Miss Buss' own immediate supervision—that was all very carefully gone into. The buildings, which were opened in 1879, have a north light, and the light falls on the right-hand side.

8611. The strain is not aggravated by sitting against the light?—No.

Games.

8612. You advocate games, of course, of all kinds in your school?—Yes, if the girls are able for them.

8613. Of course always provided they are able both for the physical training and the games?—Yes.

8614. But would you advocate the use of hearty games for girls?—Oh, certainly.

Organisation.

8615. Do you supervise the games in any way?—Well, I know what is going on, and then there is the mistress who supervises each particular set of games—the vice-president of the club. Our system is that the vice-president of the hockey club or the swimming club is nominated by me, which gives me a certain control over the club. There are some rules which the committee draw up, and there are some rules which are my rules.

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8616. As regards the public games of the school?—Yes, the public games.

8617. Is there no playing at random with freedom as children will play?—Well, there is not very much room for that. We have a very small playground, by which we are seriously handicapped, and the girls make the most of their playground and their fives courts, and they make a good deal of the gymnasium; but the games are nearly all organised games. They used to play a good deal more as they pleased in the gymnasium in the dinner hour, but the games were not so good as now. The captain of the games club organises the games.

8618. With your difficulty of a small playground, nevertheless you cultivate games of all kinds?—Yes.

8619. You believe they are a necessity for the intellectual training which goes on in the other part of the building?—Yes, one of the mistresses practically looks after the games.

8620. Is there any game specially that you would advocate for the girls?—Well, hockey is the game from which I think they get most enjoyment—hockey in winter.

8621. Is it the one that produces the best results in the child herself; for instance, skipping has been spoken of most highly before us?—That is part of the gymnastic course. It is hardly a game. I think I ought perhaps to say, in relation to skipping, that a case once came to my knowledge where a serious mistake had been made in encouraging the girls to skip too much. It is dangerous if it is overdone. It may be injurious just like jumping too much; but that illustrates another point that I am glad just to speak of, namely, the danger of the competitive principle.

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8622. Yes, I am glad you mentioned that.—In this case which I mentioned, the head-mistress—it was in a private school—in order to encourage physical activity on the part of the girls offered a prize for the girl who did the most skips during the term, and the girl who won the prize found out some years afterwards, when she was married, that she had done herself harm: she had skipped too much. That illustrates the danger of the competitive principle. I think it a little dangerous, because girls are apt to do more than they ought to do?—We have, of course, the competitive principle in the athletic sports; but that is the only place it comes in.

8623. But again it is under supervision?—Certainly. When the girls' names are entered for sports, the list of entries is brought to me, and I compare them with the medical record of each girl in the book. If there is anything against her, I send for her, and cancel her entries in whole or part. I let her do, perhaps, something easy—a potato race or sack race, or something which does not mean much violent exercise. I take her almost ruthlessly out of running or jumping.

8624. *By Sir Henry Craik.*—Yours is the first school from which we have had evidence which is a higher-class school; it is for higher-class pupils?—Yes.

8625. They pay considerable fees?—The fee is 17 guineas under thirteen, 18 guineas over sixteen, and 20 guineas for those who enter over sixteen. The object of the last, of course, is to discourage late entry. As this is a higher fee than that of the girls' public day-schools, or any of the schools in the neighbourhood, I think you may take it that either the girls attending the schools are decidedly well-to-do, or else their parents are making very special efforts for them.

8626. Have you had any experience in comparing that class of girls with those in attendance at the State-aided schools?—Well, only the opportunity arising from the fact that we have a certain number who come up to us with scholarships—scholarships from the Board Schools, and the London County Council scholarships.

8627. They gain these scholarships by competition?—By competition.

8628. And perhaps after considerable hard work?—From the elementary schools, yes.

8629. How do these girls compare with girls whose circumstances are easier, and who have not had that hard intellectual work?—Oh, I think I have seen a good many cases where they come up rather fagged.

8630. Rather over-strained?—A little over-strained, and I think—I could not say I have quite the evidence for this, but I daresay I could look it up, and make it more definite—a larger proportion of defects of one kind or another.

8631. Have you ever watched the effect of the physical training on these girls?—Oh, yes, they improve wonderfully; they improve altogether; they certainly improve physically.

8632. Then you get, of course, intellectually picked girls out of the State-aided schools?—Yes.

8633. Those who are really best worth working for; but, at the same time, you find in their case that the physical side has been rather neglected?—Yes; on the whole, that was the object of getting the London County Council to introduce some physical testing, and I think more will probably develop in this way later. They have accumulated some very interesting evidence on the subject—about the eye-sight especially.

8634. How long have you been in charge of the school?—Since 1895; but I should say I have been there since 1875. I was there as mathematical mistress.

8635. Would you tell me what your experience is as to the raising or falling-off of the physique of the pupils during that time?—My impression is that decidedly there is an improvement.

8636. That more attention is given by that class of pupil to physical exercise?—Oh, much more; much more interest in physical exercise; that is quite undoubted. I remember the days when we used to find it difficult to make the girls play, and very difficult to get them to take an interest in gymnastic exercises. When I was a young mistress there, I used to go in and do the gymnastic exercises with the girls, in order to give them a lead.

8637. But that is not necessary now?—No.

8638. During the same time you have seen almost the complete development of the competitive system for the girls, their going in for degrees, and so on?—Yes.

8639. Do you think that has had any effect upon their health?—No, not if it is watched.

8640. But it probably did call for all the greater attention to their physical training being carried on at the same time?—Yes, I should say so. We have always watched over work very carefully in the North London Collegiate School. We have a system of home time-tables, by which each girl reports the number of hours she takes over her work, so that we may check it in the school. Especially in the sixth form, which I had to do with before I was head-mistress, there would be two or three girls very eager about their work, and I had very carefully to watch them. I think there was a little more difficulty then than there is now; but still, there is always a necessity that girls should be watched, lest they work too many hours. Also, in regard to examinations, we make it a principle that every girl shall promise, when she goes in for an examination, that she will not work at her books during the examination, and I think that is a healthy rule. They come to recognise that moderation in work is, on the whole, best for the work, and I think they carry this principle into life afterwards.

8641. Then you think, to sum up, that, although this development of the competitive system and of the system of examinations might have been a great danger, you have met it partly by careful supervision and regulation of pupils' work, and partly also by the increased development of physical exercise?—Yes, and I would include in that careful revision of their work, the cultivation of a common-sense view of it in themselves.

8642. I have only one other question to ask, what effect have you found that this physical training has upon the intelligence and the brain-work of the pupils?—Oh, yes, that is a very interesting point. There is no question, I think, about the improvement that is effected. A girl who lacks balance begins to improve by being interested in physical exercise, and thus gains steadiness and self-control. Her physical training helps her, and her intellectual training helps her; but I have been very much struck with the steadying effect of the physical training I have seen from time to time. That is quite as striking, I think, as the improvement in symmetry and development.

8643. Then generally your verdict is, that although you have no personal experience of the State-aided schools, the effect of this upon best-selected pupils out of those schools who have come under your charge has been very excellent.—Yes.

8644. And that, instead of impeding, it has increased their intelligence?—Certainly, I should say so. As regards measurements of height and weight, etc., I want to be allowed to supply you with statistics.* I have not been able to get them ready in the time. I have some here, but the numbers on which they are based are not sufficient.

Development.

8645. *By the Chairman.*—We would be very glad to have them if you can send them on?—I do not want to leave you what I have to-day, because I am not sure that they are accurate; but so far as they go, an interesting fact appears. I have here the average heights for different ages of the girls now in school, and also these averages for each age as recorded in the medical book. The former is a little better than the latter throughout, but especially in the higher ages. That might turn out to be an interesting piece of evidence.

8646. That the former one is better?—Those who are in school now.

8647. They have improved, you mean?—They are better, taking them on an average in school, than they are taking them as they enter.

8648. So that there has been a general development?—I think that is what it seems to show. Also the average is higher than the ordinary average, which I think is 62·6 at eighteen years of age, and I get 63·8.

8649. *By Sir Henry Craik.*—Yours is a day school entirely, you have no boarders?—Oh, there are boarders; there are four boarding-houses; that is how I spoke of the girls who come up from the country.

Time.

8650. *By Sir Thomas Coats.*—In section No. 1 of the physical training you say you give two half hours per week to the children, that is for the general training, not the special training; do you consider that two half hours per week quite sufficient?—Yes, I think so, in a general way. It is very thorough work. Would you like me to describe what they do? It is really gymnastic work. They use the simpler apparatus as well as the free exercises, and they have gymnastic dress. The dress is one of the difficulties. It was only about three and a half years ago that we were able to introduce the dress. The ordinary dress had always been a difficulty, and considering that it varied in fashion from time to time, one never could get the better of it; but it was not till the interest in physical training was strong enough, and it was popular enough, that we were able to prescribe a dress. It is not, of course, possible to change the dress in school, for lack of time. They come to school with the gymnasium dress, but with a skirt over it. This is perhaps a detail to tell you, but it is an important detail, because it is just what makes the dress possible.

Gymnastic dress.

8651. You would not advocate more time being given if you could spare it from the other work; you would not advocate more than two half hours per week?—If we could spare it, yes—three.

8652. You think it might be of advantage if you could spare it?—Our school hours are short.

8653. What time do you stop?—1.30. There are always extra subjects in the afternoon, and all these extra gymnastics in the afternoon.

Special dress.

8654. I meant to ask you about the dress the day girls come in in the afternoon; do they dress specially for the afternoon work, or do they dress specially the whole day long?—They can wear the dress the whole day long, or they wear it with an extra skirt. It is

* *See* Vol. I Appendix V.

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just a simple blouse bodice, short skirt, made of blue serge; having an extra skirt turns it into an ordinary dress; it is so devised that it varies very little from the ordinary dress, and yet is distinctly a uniform.

8656. Is the dress so distinctive from an ordinary girl's dress as to be remarked?—Going through the street?

8657. Yes?—Well, in the winter time they would have jackets. It is not very noticeable even in the summer time, and I do not think they mind very much.

8658. My reason for asking was with regard to the poorer children in Board Schools, whether such a dress would be applicable to them; do you think it would?—There is the difficulty in expense. All these things mean some expense. I do think that is a difficulty.

8659. They could not substitute that dress for their ordinary dress?—Perfectly well. The little ones, of course, do not really want anything else; they could substitute it for their ordinary dress; that is to say, have that school dress which would answer the purpose.

Hygiene and domestic economy.

8660. With regard to domestic economy, of course it has a bearing on this question—perhaps not a direct one—do you teach domestic economy?—Yes, we have a course of hygiene and domestic economy once a year, in the spring term.

8661. But probably the girls in your school would not require to do their own cooking afterwards?—Well, the domestic economy and hygiene I spoke of is theoretical. There is a cookery class which they take in the afternoon, but it is not part of the regular school course; their parents do not want that for them; they are pleased to teach them for the most part at home.

German system.

8662. *By Mr Fergusson.*—In the physical training do you work on any book; what system do you work on?—I could describe it best by saying that it is German gymnastics for the most part. I am thinking of the two rival systems—the Swedish and the German.

8663. The German, you call it; is there a book?—I do not know; the apparatus work is the sort of work that is taught in the German gymnasia, and all our teachers have been trained on the German gymnastic system rather than on the Swedish system. On the other hand, the semi-medical work is very much of the nature of the Swedish system. There are four teachers altogether, and they are all trained teachers having their certificates.

8664. Have you any strong opinion in favour of one system or another; do you object to the Swedish?—Well, I think the German system is better on the whole than the Swedish. That is my own opinion; of course it is just rather contrary to the prevalent educational opinion, I know.

8665. Is there much drill in your system?—A certain amount of that in evolutions; yes, they have that, and, at the same time, free exercises, and exercises in the use of dumb-bells and clubs and hoops; there are quarter-staves too; that is rather more advanced.

Mrs B 17 Ju

Dress.

8666. It is only of late years that you have been able to introduce a special dress, but if you got on for so many years without the special dress, I may take it that, although a special dress is a good thing if you can get it, it is not necessary?—It makes an immense difference; the work is quite different; it is so very much improved.

8667. It looks better?—Not only that: I mean it is better because the ordinary dress—especially for these big girls, of whom I am thinking—is very unsuitable. The skirt is too long and the sleeves are probably too tight; there are all kinds of difficulties of that kind, and the ordinary dress is seldom suitable; it may be sometimes, by accident.

8668. You see, of course, what an enormous difficulty it would be in Board Schools?—I quite see.

Medic inspec

8669. As to medical inspection, your girls are only seen, as a rule, once a year?—Once a year.

8670. I suppose on entering they are inspected?—Yes; and then they come round again in rotation.

8671. Unless there is anything special, once a year?—Yes; and the delicate ones about once in six months, and, of course, some oftener.

8672. If there is anything the teacher wishes to call attention to?—Yes; or according to the doctor's previous notes.

8673. You think that is sufficient once a year, with extra inspection for special purposes?—I think so; that answers very well.

Germ Swed syste differ

8674. *By Mr Shaw Stewart.*—Why do you prefer the German system to the Swedish?—Well, I think the Swedish system in its completeness pays too much attention—dwells too much—upon training of the individual muscles, if I may so put it, as compared with the training of the body as a whole to do certain things. I am afraid I am putting it very crudely.

8675. I think I understand—the Swedish system is too particular, perhaps?—Too particularizing.

8676. And the German is more general?—Yes, and I believe that you get better results by fixing the attention upon the act to be performed rather than upon the training of particular muscles.

8677. I quite understand the distinction as you have explained it?—I am too ignorant to speak with any authority, but that seems to be the difference, as far as I understand it.

8678. *By Mr Alston.*—Can you refer us to a book on the German system?—No; but I daresay I could, probably by consulting my teachers, refer you to some book. The system which we use more or less is what is now being taught by Fraülein Wilke at the Polytechnic Gymnasium at Chelsea.

8679. Nothing to do with Sandow's method?—No; I do not quite know what Sandow's method is. The college for physical training best known is that of Madame Bergman-Osterberg on the Swedish system.

The witness withdrew.

Mr J. Masterson.

Mr John Masterson, examined.

J. M

8680. *By the Chairman.*—You represent the School Board of Perth?—Yes.

8681. Do I understand what you say is what the School Board wish said, or is it your own opinion, or both?—It is the policy of the Board. What I have stated in my notes is exactly the policy of the Board.

8682. I should just like before we start to get your previous career—your military career—to be noted down. Would you just say what you were?—Yes, my lord. I left the Royal Scots Greys as Quartermaster-Sergeant, and since then I have just retired from military life. As you know, my lord, I have been instructor to the Yeomanry, to the Fife Light Horse, Sergeant-Major of the Fife Light Horse, after twenty-two years' service. I was instructor in the Yeomanry for three years after I left the Army, so that combined I have had forty-four years' service altogether.

8683. Which you have just completed, you may say?—Yes, I have just completed forty-four years' service.

8684. How long have you been a member of the School Board of Perth?—Nearly nine years.

8685. Uninterruptedly?—Uninterruptedly.

Perth chai Boar

8686. Now, if you have got a copy of your notes, you might read them to the Commission?—I have been commissioned by the School Board of Perth (Burgh) to give evidence before this Commission. I have been a member of that School Board for nearly nine years. I claim to be an expert on the subject of physical training, having given instruction in it for forty years. I have recently been employed by the military authorities to test recruits for the South African Constabulary and Scottish Horse. I have also trained candidates for the Indian Civil and Military Services. I have always taken a great

interest in the subject of physical training. I may say I am one of the pioneers of physical training in the country, because I started it from the formation of the gymnasia in Aldershot in 1860, when that gymnasium was first started in the Army. The gymnasium was transferred from Woolwich, where it only existed, to Aldershot, and my colonel took a great interest in it, and sent a number of non-commissioned officers round the country giving exhibitions of physical training, and so induced a healthy feeling in that way. In 1875 we first introduced it into the schools in Britain, and ever since 1860 my regiment has taken a leading part in the introduction and carrying out of physical training. Twenty years ago I gave an impetus to such training in Perth by establishing the Perth Gymnasium and School of Arms. Previously to that there was little attention given to physical training in the schools. On the gymnasium and school of arms being opened, large numbers of adult ladies and gentlemen, as well as large numbers of young ladies and gentlemen from the two secondary schools in Perth (Perth Academy and Sharp's Institution), attended it. So successful were the classes that the School Board were approached with the object of getting drill introduced into their schools generally. At first the Board was not responsive, as at that time drill was not compulsory under the Code; nor is it yet, but unless we have physical training we get no grant on the highest scale. Physical training is not compulsory in the elementary schools. Gradually the advantages of drill came to be recognised, and facilities were given for teachers attending the gymnasium to qualify for teaching their classes. If you will allow me, I will show you the certificates we granted, and the Board accepted that certificate as qualifying for teaching. This is twelve years ago. Over twenty lady teachers attended a two-session course, and after an examination by the president of the gymnasium (Colonel J. Campbell), obtained certificates which the School Board accepted as showing competency to teach. On the gymnasium being closed, about nine years ago, the School Board took over its equipment and engaged their present instructor. Physical drill is now taught throughout in the elementary schools, and military drill is taught to the senior divisions in all these schools. The instructor engaged by the Board is a professional drill instructor and sergeant of Volunteers. He is also instructor of swimming. He teaches in all the elementary schools (there are seven in all) except one, where the janitor drills the children, he being an ex-soldier. The average attendance last year at these seven schools was 3681. In the infant departments of the various schools the drill is done by the teachers themselves, and is taken every day for a short period. From Standard I. upwards the drill is under charge of the special instructor, who visits the schools in rotation, and in this way every child (unless physically unfit) comes under his instruction for one half-hour per week. The salary of the instructor is £100 per annum. No grant is specially payable in respect of physical drill in day schools. In these it only receives encouragement negatively, in respect that if it is not provided for by the curriculum, the average attendance grant will not be on the highest scale. In the largest of the elementary schools (where the average attendance is 1031) there is a first-class gymnasium, with the usual offices attached. It is not only used by the children attending the day school to which it is attached, but by the children attending other day schools where like facilities do not exist. It is also used by the young men attending a large evening continuation school. There were forty-six young men received instruction in the evening school last session; besides, the girls got physical exercises once a week. We hope to receive 2s. 6d. per pupil per hour per week for a session of twenty weeks in respect of this evening school instruction. Perth Academy (secondary school) has also a gymnasium, which, though small, is very efficiently furnished. The instructor is the gymnastic instructor of the Depôt Black Watch. Attendance at the gymnastic classes is optional, an extra fee of 5s. per session being charged for them. The classes, which are well taught, are very successful, being attended by thirty-four boys and sixteen girls out of an enrolment of about 300 pupils in the upper school. Besides the gymnastic classes, physical drill is taught. It is taken by about 300 pupils. In the preparatory department it takes the form of the usual infantile exercises taught by the head-mistress, who is a qualified teacher of such, and her assistants. All pupils of Junior I. and II. and Senior I., II., and III., who are physically fit, get physical drill in the gymnasium under the gymnastic instructor—the boys marching and formations, the girls calisthenics. In Sharp's Institution—the other secondary school in Perth—there is a very complete gymnasium. The janitor—an ex-soldier—is the instructor. All boys over twelve are taught military drill—*i.e.*, forming fours, formations, and marching. The drill in this school is as successfully and beneficially taught as in the schools under the management of the School Board. It is an endowed school. Swimming as a part of physical training is also taught to all children who wish instruction therein in the Corporation Swimming Baths, under an arrangement between the School Board and the Town Council. For this we pay the Town Council so much for 1000 tickets, and we make the granting of the tickets a premium for the attendance and good conduct of the scholars, both boys and girls. Systematic physical training thus appears to be available for the whole children in Perth who are physically fit, and the provision made by the Board is very generally taken advantage of. I have some programmes, if it is permissible, to show what we actually do in Perth. These are all for schools under the School Board (*showing*). Each elementary school holds an annual public exhibition of physical drill and calisthenics, and at these exhibitions every class in the school is represented, and the results of successful teaching are made apparent in the presence of the School Board and of crowded assemblies of parents and guardians, who seem to take a lively interest in seeing the children go through the various exercises. In the Perth Academy an annual competition of those attending the gymnasium is held, on the result of which prizes are awarded. There are also annual sports for past and present pupils, arranged by a committee of the pupils and teachers, under the patronage of the School Board and of leading noblemen and citizens of the county and city. I had the honour of reviving them in 1885; it had lapsed a long time, and they have gone on ever since, and that is the first programme of the reviving of the Academy sports (*showing*). The success of the instruction is seen in the improved discipline of the pupils and in the orderly manner in which they enter and leave their class-rooms, in an improved physique of the children, and in the interest it elicits among the parents, as seen at the annual exhibitions and sports before referred to. The interest which the boys themselves take in this form of instruction is evidenced by the large number of them who join the Boys' Brigade, and the considerable number of those who subsequently join the volunteers. Quite a number who passed as boys through my hands for physical training volunteered for the front on the outbreak of the South African War.

Sharp's Institution: gymnasium: course.

Swimming.

Systematic physical training in Perth.

Boys' Brigade.

Suggestions :—

Suggestions.

1. That military drill, as distinguished from ordinary gymnastic and calisthenic drill, be made compulsory for boys over twelve in the elementary schools, and should be taught by a soldier or ex-soldier qualified to do so, and should include such drill as is taught in Boys' Brigades, with a view to boys joining the Volunteers when they leave school.

Elementary schools.

2. That less gymnasium and more purely military drill be taught in the continuation school. That is actually a request from the managers of the school that we should do.

Continuation schools.

3. That encouragement be given to the senior boys in Perth Academy and other secondary schools to form cadet corps, the Government providing uniforms, arms,

Secondary schools.

Mr J. Masterson. 17 June '02.

and equipment; the officers to be commissioned by the School Board or Governors after ballot by the boys; the service to be three years, as in the volunteers; opportunities for rifle practice to be given; Morris tube, or the new tube that has just been introduced, for the first two, and range practice for third year; ammunition and Morris tubes to be provided by Government; such cadet corps to be placed under the authority of the officer commanding the district. They might, for drill purposes, be attached to the volunteer battalion, but should have their own military instructor. Rifles for the third year's shooting might be lent by the Military or Volunteer Authorities, and every cadet should be taught riding. As a certain section of the public are averse to anything military, care must be taken to show that military drill in school does not mean the manufacturing of soldiers, but the teaching of citizenship, the development of the physical powers, and the sharpening of the intellect. As regards the Government, they should make allowances for outlays incurred in pursuit of such exercises, and make grants for proficiency in them. They should also see that none but well-recommended N.C. officers are employed as drill instructors to obviate the complaint that such instructors mingle oaths and bad language with their instruction. That is one of the complaints that we have. And there is a further suggestion, if you would allow me to make it, and that is on behalf of our soldiers' and reservists' children. As you know, we have a number of them in Perth, and I would suggest, if possible, that there should be a military school in Scotland the same as in England and Ireland, and the orphans of soldiers should be allowed to go there after ten years of age.

8687. You mean a school somewhat equivalent to the Duke of York's or the Hibernian?—Something equivalent to the Duke of York's or the Hibernian.

8688. There is none in Scotland?—No; and it would be a great relief to a number of widows who have a number of boys thrown on their hands.

Teachers: time of courses.

8689. *By Mr Alston.*—You say in the first main paragraph that teachers attending the gymnasium qualified for teaching their classes. 'Over twenty lady 'teachers attended a two-session course.' How long did they attend per day in that course?—They had two hours per week for twenty-six weeks. My course was six months. They spent two sessions of twenty-six weeks each, two hours each week. These were lady teachers for the Board Schools.

8690. And they got that certificate?—And they got that certificate, after examination by Colonel Campbell, who had each lady out to drill her squad, the same as she would drill her class at school.

8691. So that they were perfectly competent to take their classes in the schools?—Yes, sir.

8692. Had you the same thing for male teachers?—We had no male teachers, sir.

8693. Have you ever found the difficulty or heard the objection that the civilian school teacher is unable to give the proper military command, and therefore does not get the prompt obedience from the boys?—No, inasmuch as many of them are members of the Volunteers. We find a large number of the male teachers are Volunteers, and thereby get the necessary military attainment.

No medical examination.

8694. Then in the third paragraph below, you say, speaking of the child, 'unless physically unfit.' Is there any medical supervision over these children?—Nothing further, sir, than that the headmaster sees that each child is physically fit. So far as he can see. If the child says he or she is not able, then the schoolmaster enquires. We have no medical officer in connection with the Board, to whom the child is sent, but if any objection is made by the parent to the child going through physical exercises, he would not be put through.

8695. You think the schoolmaster is capable of judging at a glance whether a boy or a girl is physically fit for training?—Well, we have so much confidence in the headmaster that he will not put the child to physical training.

8696. It is not a case of confidence in the master, it is a case of his medical knowledge?—Unless the complaint is made we have no medical examination.

8697. In these continuation classes, where forty-six young men received the instruction in evening school, you get or you hope to get that 2s. 6d. per pupil per hour per week, for your session of twenty weeks, and they could take another subject?—They are in connection with the continuation classes, and it is the only school, and the only course for which the Government has given us a grant. We have applied for a grant, because we have built a place specially for them, for the evening continuation school. We have built a workshop, laundry, cookery and gymnasium, and in this gymnasium the young men are trained, and we hope to get a grant of 2s. 6d. for each of them per hour per week.

8698. That is not military training or physical exercise?—Well, the instructor is a sergeant of the Volunteers, and also an officer of the Boys' Brigade, so he is thoroughly well up in military drill, and he gives the men marching drill and formations of fours, which is really the only thing they teach in the Boys' Brigade.

8699. You are pretty strong in the Boys' Brigade in Perth, there are fifteen companies, I see, in the battalion?—Well, we have a couple of lapsed companies, sir.

8700. Fifteen companies?—Fifteen companies there are, but we have two lapsed companies, sir, we may say. We have now thirteen companies that we can put on parade.

8701. Is that at the end of May this year?—On the 19th April, sir; we had our inspection on the 19th of April.

8702. You speak of display at the annual public exhibition of physical drill and calisthenics, and so on, I would like to ask is that drill a showy drill to interest the public, or is it thoroughly well grounded? We have noticed that a good deal of the drill that is shown in public displays to please the parents and the public is of a very showy character, and a skilled observer on the spot could point it out at once, and say, 'that is of no 'use physically for the children'?—No, sir, we have simply an exhibition of each class. Each class goes through a certain portion of this calisthenic drill. The infants go through under their head-mistress to music, we have had the boys go through it to music. In the Academy I have the honour of judging the competitions, and of course they do not get the prizes except I see they do it properly.

8703. You have found that it is not fancy or showy drill merely, but thoroughly-grounded drill?—Thoroughly grounded.

8704. Are any of the teachers allowed to introduce fancy movements?—No, sir, except in Indian clubs, in which I think there is a tendency more for ornamental than useful work. It is getting the fashion among Indian club players now to introduce a lot of fancy movements which are not in accordance with what General Hammersley used to teach us long, long ago.

8705. They serve no purpose?—It might strengthen the wrists, but it does not strengthen the other parts.

8706. You do not approve of them?—I do not approve of them. Of course I would prefer the club drill to be done after military fashion.

8707. Would you approve of the Aldershot system throughout?—Oh, yes; there is no system better than the Aldershot system, because it is all based on M'Laren, the Oxford man, whose book was the first introduced into the army in 1860. M'Laren was formerly the teacher of gymnastics at Oxford, and his book became the text-book for the Aldershot gymnasium when it was established.

8708. And if there was one uniform system to be adopted in Board Schools, would you approve of the Aldershot system?—I would, sir.

8709. And for girls, I suppose, something else?—I would approve altogether of the Oxford system, because it is more of the nature of development than the ordinary so-called gymnastics, which have a tendency to make an abnormal development; and then, if a child does not follow them out, when he grows up the muscles

that he contracted in his youth disappear when he should have them as a man.

8710. Then, a little lower down, you speak of 'the 'interest which the boys themselves take in this form of 'instruction'—meaning the military form of instruction —'is evidenced by the large number of them who join 'the Boys' Brigade.' Is it the case that the boys are passionately in love with drill?—I think more than one-fifth of our brigade are schoolboys.

8711. They must be between twelve and seventeen, and, of course, a large portion will still be schoolboys. Are they so keen about drill, there would be no difficulty?—There would be no difficulty.

8712. Would there be any difficulty in continuation classes after the school age?—That is where we lose them; we lose them after they have left the Boys' Brigade. If they attend classes they pay more attention to their classes for their trade purposes, unless they join the Volunteers. A great number of them do join the Volunteers.

8713. Would you approve of some inducement being given to them after school age to take drill?—I think so—something attractive to the boys between the school age and the age at which they may be admitted to the Volunteers.

8714. Do you say a great many of them join the Volunteers?—Yes, sir.

8715. From the Boys' Brigade?—From the Boys' Brigade, a great many.

8716. Do they go into the band?—No, into the ranks; the adjutant would rather have them.

8717. How does he get over the difficulty of the recruit drills they have to go through when they join?—They manage to do it. There are no less than four boys of the company I had the honour to belong to who have been at the front; they joined the Volunteers, and then volunteered to go to the front.

8718. Both officers and boys have gone to the front?—Yes.

8719. You knew that was a difficulty in the way of members of the Brigade Boys going to the Volunteers—the absurd burden the recruit drills demanded of them?—They get over a portion of that. When the adjutant finds a Boys' Brigade boy join the Volunteers, he sees he is perfectly drilled, and he gets a certain allowance for it.

8720. Is he allowed to do that?—I think so; I could not say for a fact, but the Boys' Brigade boys are always very acceptable to the adjutant of Volunteers.

8721. In your suggestions you are entirely military?—Yes.

8722. Our difficulty is just with this same military question. What is your opinion of the attitude of the public or the parents of the boys towards this military side of the matter?—Well, I have been held up to public opprobrium for making the lads soldiers. I hold very strongly that every boy, when he becomes a certain age, should be trained to the use of arms, and be able to fulfil his duties as a citizen, and I think the best way to do that is by the system that we are adopting at the present time, drafting them from the school into the Boys' Brigade; but every boy has naturally a liking for military drill, and following the music, and that especially where boys are for four years in the Boys' Brigade, where they get this training along with the physical training. Physical training is a secondary consideration in the Boys' Brigade, and they go into the Volunteers with a very good foundation.

8723. But you have met with that objection, have you not, on the part of the public and parents?—I have, sir, and especially in congregations that ought to be different.

8724. That ought to know better?—I mean we have two or three companies that are not in connection with a congregation. Our No. I. and No. III. in Perth are not connected with a congregation; they are in connection with what they call the Perth Working Boys' and Girls' Institute—they do not belong to any certain congregation, although their parents belong to various—and I find that we have a better chance with those two companies than we have with some of them that belong to congregations. Some of the congregations object to a soldier having anything to do with the drilling, and others will not have anything unless there is a soldier drilling the boys.

8725. Is that a very strong feeling in Perth?—Well, it is so strong that we had to eliminate all the professional instructors.

8726. Then we look at the matter from the side of the public school. Could we get all the advantage of that military training to a large extent, and without using the words 'military training?'—I think so; if it were introduced at the schools, and made a compulsory subject, we could get all that. The parents would then have no option.

8727. But a little further down you say, 'As 'a certain section of the public are averse to any-'thing military, care must be taken to show that 'military drill in schools does not mean the manufac-'ture of soldiers'; and yet all your suggestions twenty lines above are entirely devoted to the manufacture of soldiers, even to the extent of improved rifle practice?—Well, we find the difficulty in the North with trade unionists.

Trade unionists' objections.

8728. Indeed?—Trade unionists have peculiar notions, and one of these peculiar notions is that children are being manufactured into soldiers as against the interests of tradesmen, and one man in Dundee only a short time ago went so far as to say that in his youth he had been a volunteer, and that the instructor mingled with his instruction more oaths than instruction. That was a perfect libel upon the instructor. You see the feeling, and this was a petition that they sent to the Town Council.

8729. But that was taking rather a high tone on the part of the trade unionist if he objected on account of the moral character of the instructor?—Yes, of course it was; but he was probably voicing the opinion of a great many people, because there were others at the same meeting who gave expression to similar views.

Military training: instruction by an army man.

8730. Then could you advise this Commission towards a large amount of improved physical training in the school during school age without harping too much on the military side of it?—Yes; I would suggest that the military training should be done by a soldier apart from the physical and calisthenic point of view. Let the instructor that the Board employs drill the children in calisthenics, such as bar-bells, dumb-bells, and marching and maypole dancing, and all those sort of things that develop physically; but let the instructor of the boys over twelve—or make it ten if you wish, because we find the boys of ten are very anxious to join the Boys' Brigade, and we cannot admit them, we cannot allow them—let these boys be taught by an army man. If he is not available in the town as a soldier, let him be an ex-soldier. One of the best schools in the town—one of our very best drilled schools—is done by the janitor, who is an old soldier, and our paid instructor does not come near that school at all—that is in the Craigie School. Sharp's is another of the secondary schools in which the janitor is an old soldier, and always gives the boys marching and formation of fours.

Teachers.

8731. Of course we have found that a perfectly trained male teacher is quite capable of giving all that sort of military drill in the school?—Quite so; the difficulty is to get them.

8732. A good many have been trained during recent years?—We find most of the men have been trained in Aberdeen under Colonel Cruden, who grants certificates, and I think it is a *sine quâ non* of Aberdeen University or in the Normal School that the teacher must take a course of military drill or gymnastics.

8733. He is supposed to be competent, and we have had evidence that he is perfectly competent if he has gone away with a certificate from a proper school of instruction, in which case your old soldier does not require to be seen or heard?—Quite so.

Continuation classes: attraction not compulsion.

8734. After school age, would you advocate, in continuation classes, compulsory military drill?—Well, you can hardly, because the boys are of that age that you can

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dardly compel them; you can invite them and make the drill attractive, and if there is a grant given for it, then, of course, they can do it; but they must take two subjects in the continuation school, and if they take the subject that they are mostly in need of, such as writing or building construction or machine construction, or whatever scientific subject they want, let them take the military training as a second subject. A great many of the pupils attending the continuation classes simply go principally for one subject. The women now, for instance, go for millinery. Well, they go principally for millinery, but they must take two subjects; well, they just put in anything else, and do not attend.

8735. Then as to the boys, what do the boys do?—The boys are the same.

8736. What subject will they take?—In the purely continuation school they commence just where they left off at the Fifth Standard, and if any of them want any technical education, their time is much taken up with that, and it is perhaps those who only want one subject that will go to the gymnasium. In the continuation school in Perth we have over 1000 entries, and you see there is only forty-six of them gone through the course there. Very likely these lads are only taking one subject that they wish to work up in, but in order to take advantage of the evening continuation school they must take two subjects, and they just take gymnastics as the other.

8737. That is, gymnastics distinguished from drill?—Oh, different from drill; and that is what I say, if we had less of the purely gymnastic element and more of the physical element, that is the building up, because really training a man to be an acrobat I do not think is a physical training.

8738. Boys want the gymnastics?—Boys want the gymnastics.

Physical training *plus* drill.

8739. Whereas you want the physical training and the military drill as the other subject?—Yes.

8740. Then how would you attain that?—Suppose the boy says: 'No, I will go in for gymnastics and 'arithmetic.' I would make, perhaps, the time allotted to gymnastic exercises longer, and if they wished gymnastic exercises given them, we could give them the rest of the time military drill.

8741. Could the Boys' Brigade companies lift any of the grant under these conditions?—I do not know.

8742. Not as they at present stand?—Not as they at present stand.

Gymnastics and physical exercises compared.

8743. *By Mr Shaw Stewart.*—You have had a great deal of experience in physical training. I want to get this from you. You have given us one reason why you prefer physical exercises to gymnastics, and that is that gymnastic work tends to develop certain muscles which are afterwards, perhaps, neglected, and physical training develops all the muscles, and so forth; is there not another reason why physical exercises are better than gymnasium work, that physical exercises can be applied to the more weakly boys and girls?—Oh, yes, sir.

8744. Gymnasium work attracts the best-developed and those least in need of physical training; is not that it?—Yes; well, of course, in the gymnasium, that is more for physical training than pure gymnastics. I am speaking of boys who without control would so work upon a machine that they would abnormally develop themselves. Well, those boys when they leave school might go to an occupation that they would not have the chance of continuing that, and the muscle that they have abnormally developed would disappear altogether, to the detriment of those that should have been properly developed, whereas, if they had taken a milder course, the body would have been built up in the average rational manner, and it would always remain so.

8745. Would you say that physical exercises are of more value than gymnastics, that is to say, physical exercises without fixed apparatus are of more value to improve weakly boys and girls?—Yes. What I mean by that is this, sir, that marching with a dumb-bell; most of the exercises in an ordinary school are done what we call in the army at the halt, while in the army practice the man marches and works the bell as well, or works whatever instrument he is working with; either with the club or with the bell, or with the dumb-bell, marches with it. By that means he builds up his body; he is brought to an erect position, whereas if he was only at the halt he would be always at the lounge at some of the exercises, and not exercising the whole of the body at the one time. That is distinct from pure exercise on the horse or the parallels or the like of that. That is more for building up muscle, it is not for making the children grow up and bringing them up in a gradual physical state. But the exercises on the fixed apparatus as we call them are more for getting up muscle, as they say in the common expression.

8746. Therefore exercises with free movements are more generally valuable than exercises with apparatus?—That is what I think, sir.

8747. I see that in the gymnasium that you speak of in connection with the largest elementary school, only thirty-four boys and sixteen girls, out of an enrolment of 300 pupils, attended the classes?—That was in the Academy, sir.

8748. That was in the Perth Academy?—Yes, sir. That may arise from the fact that they have to pay a fee for gymnastic instruction, and, of course, it is only the parents who wish their children to get that exercise that pay the fees.

Swimming.

8749. One other question about the swimming classes; how many children attend the swimming classes? You say here that all who wish instruction attend?—Yes; well, we issued 15,000 tickets last year to the teachers, and there were 3000 returned, so we issued actually 12,000 tickets last year, and the system adopted is every child who wishes can get a ticket, but he must earn it by attendance at school or by attention to his lessons.

8750. It is looked upon as a kind of privilege?—Yes, sir; the boys and girls alike get the instruction, and, as I say, the same instructor who has the physical training gets £100 a year for physical training, and gets £25 for the session for swimming, and the superintendent of the Corporation Baths gets a little—£5 as a present for looking after the towels and that. And then we have, at the conclusion of the session, all the schools represented in competitions, for which the members of the School Board give prizes.

8751. And there is no difficulty in inducing the children to attend?—Oh, not the least; the difficulty is in making the selection.

8752. But it would be a good thing not to make a selection if you could; it would be a good thing that every lad should attend, would it not, the swimming classes?—What I mean by making a selection is that every child wishes tickets, but then some child might come to the school just for nothing else and stay away oftener than desirable, but the masters make it a condition, a reward for good work, that they get the ticket. There is no child precluded, but he must earn his ticket.

Medical inspection.

8753. *By Mr Fergusson.*—As a member of the School Board, did I understand you to say that you did not think the medical inspection of the children was necessary?—Oh, no, I did not say it was not necessary, sir; I said it was not carried out. If the headmaster thought any child was unfit for physical training, or if the parent objected to it on account of its illness, then, of course, he would not have it.

8754. But it was suggested that you might go a step further and have a medical inspection of every child in a school once a year, so that the doctor might see there were no defects which the schoolmaster had not noticed?—I think that would be a very good thing, sir.

8755. You think that would be a good thing?—We have actually one of the medical officers of the city to whom we send any case.

8756. We were told by a previous witness that forty-five per cent. of the children at that particular school suffered from flat feet and twenty-nine per cent. from defects of eyesight; now you know these are things that an ordinary teacher does not, as a rule, notice?—No, sir.

8757. Except in the infant standard you have a special instructor for your physical training?—Yes, sir, for six of the schools.

8758. Do you do that because your school teachers are not competent to take the classes in physical training?—Oh, no, sir. When we appointed that instructor twenty-one of our lady teachers had earned those certificates that I have just handed to his lordship. A number of the male teachers who come to us; we give a man a preference if he has the certificate, but then the teaching of physical training in the elementary school is not on the curriculum. It is not a compulsory subject, and you take the teacher away from his class, from doing something else, if he has to give his class perhaps half an hour's training every day, whereas by having this paid instructor who goes round every school, the teacher is free for school work.

8759. Quite so; but it is done in school hours?—Yes.

8760. Well, the schoolmaster must be doing something?—Yes, but he has every period occupied. The curriculum of the Code is getting so heavy now that the teachers do not know what to do, there are so many subjects introduced.

8761. No; under the new Code, as it is now, there is great latitude?—They are making the Code harder every year, sir.

8762. Have you not found in your experience that children are under better control with their own teachers than they are with strangers?—Well, we have not found that, sir; we find that this man we have had has had the children under perfect control.

8763. You are quite satisfied with the system as you have carried it out in Perth?—As we carry it out.

8764. I notice you say there are crowded rooms of parents come to see these exhibitions, at the same time you have told us that there is a very widespread antipathy to making soldiers of your boys?—Well, that is really the fact; at all the exhibitions, every school we exhibited this year, we have had to take the City Hall for no less than three of the schools. We used to give exhibitions in each school, but we found the crowd of the mothers and friends coming to see the children was so great that we had to take the City Hall.

8765. But still you are aware of a large body of opinion which is distinctly against military training?—Well, I would not say a very large body; I say a body of extremists, men who will neither go for their families nor their country, and who find fault with everything that pertains to a soldier, who would like to see everything brought to his door, all made comfortable for him, but would not like to do anything for it. And we find that, especially in Dundee, in the Trades' Unions, the members of them have a very strong antipathy to soldiers, and I have found it in the Boys' Brigade, as I think I previously said that some congregations object to soldiers training the boys, though they were obliged to form a brigade; at first they were obliged, they had no help for it, they had to have that soldiering experience.

8766. Are you satisfied with the continuation classes as they are at present?—Yes, sir, but I would advocate very strongly that the gymnastic instruction of the continuation classes should be made more of a military character than it is. With the young men attending them you can hardly make it compulsory, but you might make it in a sense compulsory if the grant were only given for purely military exercises. Of course it says so in the Code, that grants will be given in the continuation schools for physical drill.

8767. But apart from that you are quite satisfied with the way the continuation classes are worked at present?—So far as we are concerned in Perth we are, sir.

8768. Do you know Chesterton's system of physical training, his book?—No, sir.

8769. *By Sir Thomas Coats.*—I gather from what you have said that you advocate the army teaching of military drill. You say here, I think, that boys over twelve in the elementary schools should be taught by a soldier, and you would give him more military drill than you would of gymnastics or calisthenics; you would stop the physical drill at twelve?—Oh, no, sir.

8770. Then how could you obtain time for both?—Well, in this way, we might give them half an hour; they have only half an hour a week; I would give them half an hour a week physical drill, and half an hour a week military drill—alternate it.

8771. In that way you would get very little physical drill; would it not be absolutely worthless giving them half an hour every alternate week?—Yes, sir, but we could not get more time.

8772. As a member of the School Board, do you think it is impossible to get more time than half an hour a week?—Well, I do think so, on account of the number of subjects we have now. They have introduced this year a new subject, hand and eye drawing, brush work; it takes up a lot of time.

Continuation schools.

8773. In the continuation schools you would give less gymnastics and more purely military drill. These continuation schools, of course, are carried on in the evening; would it not be very difficult to give military drill, that is much marching or what you call military drill, in the evening?—But you know the tendency of the young men at the present day, he must go in for athletics of some sort, and if you try to force him into going with the marching, forming fours and that, some of them may belong to the Volunteers already, and may have enough of it, and they may be at the continuation school for one subject such as builders, building construction or mechanics, or something like that, and they go to the continuation class for that purpose alone, but they cannot take that at the continuation class without they take two subjects, so they fill in the other subject by going to the gymnasium and having gymnastics.

Military as against physical drill.

8774. My question rather referred to the difficulty of getting what you might call military drill at the evening classes, military drill as against physical drill. Would it not be much easier to give them physical drill; you could do it in much less space?—Well, if the physical drill could be adapted that you could combine the two. It is, to a certain extent, because the instructor if he carries on his class in a military spirit or in the military method—still, of course, every movement being done after a certain amount of marching and proper formation and that, it might be introduced that way.

Boys' Brigade drill for schools.

8775. But from your experience in regard to the requisite training of the children, do you not think it would be more advisable to go in for a great deal of physical drill until the boy was able to join the volunteers. You see the great difficulty we have in the volunteers is to get any physical drill; we have no time for it. And the men come badly set-up for want of physical drill, and we are never able to supply that deficiency. The consequence is that when they are called upon to go to South Africa, or any place like that, a great many are thrown out for want of proper chest measurement or some other deficiency?—Well, if the boys, as I say, were getting the physical drill in the schools the same as we give the boys in the Boys' Brigade—the Boys' Brigade get the same physical exercise as the army, precisely the same, because our drill is all the same as the army, and we have Major Smith, who keeps us up in Scotland in the Boys' Brigade to the last published Regulation Book. Well, if these boys in the school over twelve were getting the physical exercises that are given in the Volunteers, and which is only given with the rifle, then when they come out and get the rifle in their hands they have the preliminaries all learned, and they have simply to use the rifle instead of using their hands. That is what I mean by giving them military drill and then formation of fours, the ordinary marching about the school. The instructor can put them into two ranks, and form fours just the same as he would forming one rank and making even numbers fall out and odd numbers fall out. Another way, use the form for physical drill with their arms doing the same as in the Boys' Brigade.

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When they joined the Boys' Brigade they would get the small rifles, and then they would grow up, and when they got into the volunteers the boys would be perfectly drilled.

8776. In the Boys' Brigade is the greater portion of the time not given to drill and physical training—given to military drill?—Yes, sir, it is.

8777. Much more than to physical exercise?—Yes.

8778. Then they are not getting a great deal of that setting-up that one would desire?—Well, of course, all our meetings of the Boys' Brigade are always opened and closed with prayer and hymn, and then they have always all the essays and Bible classes. No boy is admitted to a company unless he is a member of a Bible class and of Sunday school, and in that way we get a religious training; but it is a difficult thing to get the boys to go to a meeting for purely religious instruction with caps and belts and arms and that.

8779. I am quite aware of that; but apart from the religious instruction, the time devoted to drill and physical exercise; there is a much greater time given to drill, is there not, than to physical exercise?—Yes, sir, because they appreciate it more, they like it more.

Boys' Brigade: development.

8780. But it does not develop them. My point is this; do you not think that it would be advisable both in school and in evening classes and in the higher class of school to develop them physically to the greatest advantage, so that when they joined the army or joined the volunteers they would be well set-up and have good physical development? Another point is this, do you find that the boys get tired of drill after a certain time and they are not so keen about joining the Volunteers?—I cannot say that, sir, because I have no experience of that; but I know that a boy, after he puts in four years in the Boys' Brigade, is a pattern boy—most of them are—and well set-up. It depends upon what he follows afterwards—what occupation he follows afterwards—how he develops. I need not tell you a boy of sixteen is not at all developed, and if you turn him out nice and straight and well-behaved, it much depends on the occupation he follows afterwards how that development will stand him. For instance, he might be in a sedentary occupation that will keep him bent over the desk all day, and he soon loses all the erectness that he had in his carriage before that.

Volunteers and Boys' Brigade.

8781. Do you think that more boys join the Volunteers from the Boys' Brigade than would have joined had there been no Boys' Brigade?—I do, sir.

8782. You think it is an inducement for them to go on and join the Volunteer corps?—I think so, because a number of our boys who joined the Boys' Brigade and became Volunteers afterwards became our officers in the Boys' Brigade, so it shows they keep up the connection throughout from the time they join the Boys' Brigade through the Volunteers, and then from the Volunteers they become our officers.

8783. *By the Chairman.*—In your suggestions paragraph, you mention the Government providing uniform, arms, and equipment; what do you mean by Government? Do you mean the War Office, or do you mean the Education Department?—Both combined. The Education Department could move the War Office. I am speaking here of cadet corps, the forming of cadet corps in the secondary schools, where the boys are of a better class and bigger boys; we can get them of a better age, because they attend school longer than they do in the Board Schools as a rule. If you give them 'rifles' I should have put in there instead of 'guns.' The rector of our Perth Academy is very anxious that a cadet corps should be formed. I tried some years ago to get a cadet corps, but the then rector was against it, but the present rector is very much in favour of it and wants it. You could not get that stamp of boy to be satisfied with the dummy rifle, the same as we have in the Boys' Brigade. You must give them some interest in it, and if you were to give them a couple of hours with the new tube, that would provide the interest. We have formed rifle clubs in Perth now, and we only want twenty-five yards of space to carry on the same shooting and the same sight as we would at a regular range. If you gave them that, then when they got a couple of years' training you have them out to the range and let them shoot. You will have these young fellows, every one of them, join the Volunteers.

Cadet corps.

8784. And what happens to them afterwards?—I say you will have a number of these young fellows join the Volunteers.

8785. And what happens to them after that?—I do not know what they do after that; I could not say.

8786. Everybody cannot be a Volunteer; there would be nobody left to do the work of the place, would there. Are you not putting that a little too far forward?—No, I do not think so. I think if we had our Volunteer army a few hundred thousand stronger than it is, it would be all the better for the country. Then we could, departing a little now from the subject, form a better reserve of Volunteers, giving a man ten or twelve years' service in the Volunteers, put him into the reserve, and let the younger ones keep on in the volunteer force.

8787. I suppose I may take it you have no information about any school outside the borough?—No, my lord. As you are aware, we have Saturday classes which are organised and supported by the County Council. All the county teachers come in there on a Saturday, and in these Saturday classes military drill is one of the things that the grant is used for; but they are so anxious to learn everything else that they do not care for that, and Dr Thomson is very anxious that that should be insisted on, that they would be able to carry to their schools the proper training they can get in the Academy.

Teachers Saturday classes: physical exercises should be compulsory subject.

8788. Do I take it from you that the teachers from the county come into Perth on Saturdays, and do not avail themselves of the opportunities for learning physical drill?—No, they are more anxious to learn any other subject, my lord.

8789. Therefore the result of that would be that they would go away home not having any power of teaching their pupils military drill?—That is the very thing the rector wants to overcome.

8790. Would you correct that by compulsory physical exercise examinations?—Yes, my lord, when there is a grant given for it they ought to take it.

Cadet corps: riding instruction: expense.

8791. Is there anything else that you would like to recommend to the Commission on their remit; anything that strikes you further?—I suggest that if these cadet corps were allowed to be formed, a number of them should be made to learn to ride.

8792. That all means money?—Oh, it does not mean very much. We are getting the yeomanry drilled in Perth now by a private gentleman paying for it. A great number of young fellows, over forty of them, who are only too anxious, and the riding is getting a very necessary portion of drill. Most young men now growing up, the moment they leave school, do not know where they are going to; in some places they must learn, *i.e.*, some situations where riding is necessary.

8793. But that expense would be otherwise than from school or educational authorities, would it not?—Well, it might be made up from school funds; in forming a cadet corps there might be a capitation grant; that could be done, that is if the War Office or the Volunteer authorities would grant it—I suppose it would come under the Volunteer Act rather than under the Military Act; there might be a capitation grant given to cover the expenses of that.

The witness withdrew.

Adjourned.

EIGHTEENTH DAY.

Wednesday, 18th June 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.
Sir THOMAS GLEN COATS, Bart.
Sir HENRY CRAIK, K.C.B.
Mr M. H. SHAW STEWART, M.P.
Mr J. C. ALSTON.
Mr J. B. FERGUSSON.

Mr R. B. PEARSON, *Secretary.*

J. Clark, M.A. June '02.

Mr JAMES CLARK, M.A., examined.

Mr J. Clark, M.A. 18 June '02

8794. *By the Chairman.*—You are Mr James Clark, M.A. of Aberdeen, and B.A., Oxford, the Rector of Dumfries Academy?—Yes.

8795. And have been so for how long?—Since 1897.

8796. Is your experience limited to the Dumfries Academy, or where were you before?—In the matter of physical training it is limited to Dumfries Academy, but I was in Gordon's College, Aberdeen, before.

8797. Will you read over your notes, please?

ysical ining at mfries ademy.

Physical training is given at Dumfries Academy in the day school, the continuation classes, and Saturday classes for teachers under Article 91 (d) of the Code. The system followed is that of the Army Handbook of Physical Training.

Day School.—Dumfries Academy is one of the higher class schools of Scotland. In the present session there are in attendance 353 pupils (boys and girls,—101 of ages ranging from five to eleven, and 252 of ages ranging from eleven to seventeen. All the classes, from the lowest to the highest, receive regular instruction in military drill and physical exercises throughout the session. The lowest class is taught by the lady superintendent, the others by the drill instructor, who received his training in the gymnasium at Aldershot, and holds a first-class army certificate. Boys and girls over ten years of age are taught separately in a gymnasium fitted with a complete set of the best apparatus. It is the rule of the school that every pupil must attend the class drill, unless certified unfit for the lessons. The more advanced gymnastic exercises with apparatus are optional. The course of training is slightly modified for girls. It includes free gymnastics, Indian club, and bar-bell exercises.

The following table will show the size of classes, average ages, hours of instruction, and the nature of the work done:—

Class.	Number of Pupils.	Average Age.	Hours of Instruction per Week.	Nature of Training
1st Preparatory .	30	5–7	Half hour and four 10 minutes	Marching and arm exercises.
2nd ,, .	21	8	Two half hours . .	Marching, forming fours, free-arm exercise.
3rd ,, .	27	9	Three half hours . .	Same as 2nd.
4th ,, .	23	10	Three half hours . .	Same as 2nd.
	Boys. Girls.			
I. Upper School	10 9	11	Two half hours . .	Military drill as above. Dumb-bell exercise (without bells). Physical drill with wands. Leg exercises on the toes.
II. ,, ,,	13 12	12	Two half hours . .	Same as I., but with elementary gymnastics added (horse and rope).
III. ,, ,,	26 9	13	Two half hours . .	Squad drill, with gymnastics as in II.
IV. ,, ,,	38 38	14	One hour + half hour .	Drill as in III. The whole Army physical training.
V. ,, ,,	39 29	15	Two half hours . .	Same as IV., but more advanced gymnastics.
VI. & VII. ,, ,,	15 No Class	16–17	Two half hours . .	Same as V.

An exhibition of the physical training of the school is given annually in the hall of the Academy, and a day is also set apart for athletic sports. The physical training is an important section of school work, which is now beginning to receive the position it ought to hold. Apart from the effect it has on the health of the pupils, it is a strong factor in promoting smartness, order and alertness in the school. Many of the pupils reach such a standard of efficiency in drill and gymnastics, that I should like to see them obtain a recognition of their attainments such as they receive for their mental work. The senior classes would, in my opinion, be made more attractive if the boys had the opportunity of rifle practice at stated times, either at a Morris tube range at school, or at the 'Volunteer' target, in charge of an officer. Where there are difficulties, as with us, in the way of forming a cadet corps, the development of the senior boy classes in the direction indicated would, I venture to think, in some measure at least, secure the benefits of a corps.

Continuation Classes.

Gymnastics have been taught in the evenings for four years. This session, however, military drill and the army physical training was given in a class conducted under the Continuation Code (Division IV.),

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restricted to those who attended any other continuation class. Although the numbers who might have joined were thus limited, a class of 28 was formed, and 21 attended with very fair regularity. The class met one hour on each of two separate nights for a period of twenty-five weeks. It was composed of 15 clerks and 13 tradesmen of various ages. One was 15 years of age, four 16, four 17, two 18, four 19, nine 20, three 21, one 22. Five were volunteers. If this class were arranged so as to be in continuation of some physical exercises, and to include such Morris tube practice as I suggest for senior boys, it would, I believe, form an important element in the continuation training of lads who leave school at fourteen and fifteen.

Saturday classes for teachers.

Classes for the training of teachers in military drill and physical exercises under Article 91 (d) of the Code have been conducted for two sessions. In 1900-01, 34 male and 73 female teachers from the county of Dumfries and the stewartry of Kirkcudbright received instruction in separate classes for one hour each Saturday over a period of thirty weeks. In the current session 13 male and 30 female teachers were trained in separate classes for three-quarters of an hour each Saturday for the same period. The expenses of these classes are borne—three-quarters by the Education Department and one-quarter by the County Education Committees. The teachers are paid their travelling expenses by the County Committees on condition that they also attend a class either in drawing or nature study. A fee of 2s. 6d. is charged for the drill class, and 7s. 6d. for the others. The object of the classes was (1) to instruct teachers in the movements and exercises suitable for pupils in elementary schools; (2) to show them the standard of smartness and precision that should be aimed at both by instructor and pupil. This was carried out by putting the teachers through the drill in class, and by giving them frequent opportunity of individual handling of the classes. In my opinion, many of the teachers will be able from the instruction and practice they received to develop the physical training in their schools—the younger teachers to undertake the drill, the older to judge and direct effectively instruction given by the younger members of their staffs, or by external drill instructors. But this is a point that may be more thoroughly elucidated by Captain Armytage, K.R.R., who inspected the classes. If the teachers had better facilities for practice in their own schools, they would be able to give more effective training than is possible at present.

Object.

Shooting: cadet corps.

8798. *By Sir Thomas Coats.*—You seem to place a good deal of importance on shooting; why is it you do so?—Because I should like to see a cadet corps in connection with the school. I find it impossible to have such, and I thought an arrangement might be made by which the boys might have the opportunity of practising shooting.

8799. But as far as physical training is concerned, we are more immediately interested in physical training in continuation classes. What advantage as physical training is shooting?—Well, it is not so important as the other part of physical training, but it is a part of physical training in so far as shooting trains the hand and eye to a considerable extent.

Drill and gymnastics.

8800. I have scarcely had time to look over this table, but in the time you devote to physical drill or drill, do you give the large portion of that time to marching and the turnings, forming fours, or is the greater part of the time given to actual physical drill, free exercises, in your school?—As far as possible, the instructor tries to give part of both in a lesson. He begins with marching, forming fours, and so on, ordinary squad drill, and gives free gymnastic exercises in the same lesson.

8801. You say he begins with marching?—He begins with that, and as far as possible alternates the military drill and the physical exercise.

8802. Do you know why he begins with the drill first?—I suppose it is to get them well set up before beginning the exercises that are intended to develop the muscles proper.

8803. Or to get them to act quickly, I suppose?—To produce alertness. *Mr J. Cl M.A.* 18 June '

8804. On the word of command?—Yes.

8805. How long do you say physical training has been going on in your school?—Five years within my experience.

8806. But you have experience of five years?—There was not a gymnasium before I went to Dumfries, so drill was confined entirely to what could be done on the playground.

Applied gymnastic

8807. Is a good deal of this work done in the gymnasium? Do you teach applied gymnastics, that is with parallel bars?—Yes; we have the full apparatus.

8808. Is there much time given to the work in the gymnasium, or is there more time devoted to free exercises?—The more advanced gymnastics are given only to the senior classes. Very elementary gymnastics are given in Class II., that is, to boys of the average age of twelve.

8809. Are the pupils very keen on this physical drill?—Yes, they are very keen on it.

8810. They like it?—Yes.

Boys and girls.

8811. And I suppose boys and girls have the same opportunities for drill?—Yes, with the exception of the oldest girls.

8812. With the exception of the oldest girls?—Yes.

Cadet corp

8813. *By the Hon. Thomas Cochrane.*—What difficulties do you find in forming the cadet corps that you have mentioned?—In the first place, we have not sufficient numbers. I do not think it would be possible to bring the corps up to the strength of seventy-five, which, I believe, is the minimum strength of a cadet corps.

Uniform.

8814. Have you any difficulties about the uniform—the supply of the uniform?—That is the second difficulty, the expense of supplying uniform. I do not think the parents would be willing to contribute.

8815. If you really had an effective corps with uniform and belt and a cap, would that be sufficient to attract your boys?—I think the chief difficulty is in the way of numbers, because a large number of our pupils come from the country and go home by train at night, so they would not have an opportunity of joining the corps.

8816. Do you combine with any other schools to form a corps?—We are the only High School in the town.

8817. They would be rather a different class from the other boys?—Quite a different class.

Morris tu range.

8818. And you would like to have a Morris tube range, I gather; you think it would be more attractive?—I think it would.

8819. Could one be arranged in any way?—I think it would be quite an easy matter if arrangements could be made to provide arms and ammunition for the boys.

8820. If you could make an arrangement with the War Office?—Yes.

8821. Have you made any representation to them?—No; my idea is that it might be possible in a town of the size of Dumfries to form a rifle corps in plain clothes, and have the boys practise on Saturday, say, either at a Morris tube range at school or at the regular target.

8822. It would be a very excellent thing. In that way they could continue their physical training, and have the advantage of being taught how to handle a rifle between the ages of fifteen and seventeen; that is before the time they join the Volunteers.

Teachers' classes: money.

8823. With regard to your classes for teachers, you have had no difficulty apparently in getting money?—No, none.

8824. You have understood how to interpret the Education Code?—Yes, quite; there has been no difficulty in that respect.

8825. Which allows you a certain proportion of the expense?—Yes.

8826. You have had no difficulty in getting the money you wanted?—No.

8827. There is no reason why others should not do the same?—Not so far as I see.

8828. *By Sir Henry Craik.*—Have you been a volunteer?—I was for two years.

8829. Then you had practice in shooting, I suppose?—Yes.

8830. And you believe that that would be a valuable part of education in the training of the eye and the hand and intelligence generally?—I think so, certainly.

8831. You carry on the instruction in your school through a drill instructor?—Yes.

8832. You do not use the ordinary teachers to do that?—No.

8833. But you contemplate that in the State-aided schools generally under the Code the instruction might be carried on by the teaching staff if they were properly prepared through courses such as you have?—Yes, I think the physical training could be carried on to a certain extent, but I should not say that it would be so effective.

8834. But for practical purposes, and in order to meet the difficulties, you think they could get sufficient skill to do the work themselves under proper supervision?—I see no reason why the younger teachers should not.

8835. But, at the same time, where you can do it as in your own case, in a school of better equipment like yours, you do it through a special drill instructor?—Entirely.

8836. Who taught the classes for teachers that you carried on?—The Academy drill instructor.

8837. The same man?—The same man.

8838. *By Mr Alston.*—In the table of your classes, under the note of the training, you use the words 'military drill.' I presume that refers to marching, forming fours, etc.?—Yes; we follow closely the squad drill of the infantry training.

8839. And you would apply the term 'military' to practice of that kind, marching and forming fours?—Yes, I used that term, because we have followed closely the drill of the Infantry Training Hand-book, which, of course, is military.

8840. You have a certain number of half hours allotted to the instruction per week; would it be possible to get in some physical training every day?—I should like to have it every day, but it is difficult to find time for it; there are so many subjects.

8841. Would it be possible in your present curriculum?—It might be possible with the junior classes, but not with the senior classes.

8842. And you would prefer that it should be possible?—I should prefer that it would be possible.

8843. Would it involve cutting off some other branch, then?—Yes.

8844. And laying stress upon physical drill as a necessity for boys and girls, would you be prepared to sacrifice some other branch of education?—I am afraid, with the high standard of examinations that we have now, it would scarcely be possible to sacrifice any other branch.

8845. But you say you would be glad to have some recognition for this branch?—Yes; my opinion is that it would raise the drill class in the eyes of the pupil if the class were inspected annually—say by a regular officer—and a certificate awarded to those of the pupils who have reached a certain standard of proficiency, a certificate which might be of some use afterwards if the pupil ever thought of joining the volunteers. What prevents a large number of our boys joining the Volunteers is that they have already gone through the recruit drill in school, and they find it irksome to put in forty drills a year as Volunteers. Now, my idea is, if some certificate of school attainments were given to boys which would exempt them from part, if not the whole, of the first year of recruit drill, that the Volunteers might benefit thereby.

8846. You mean to say that they would be perfectly able to go into the ranks of the Volunteer company by having the drill in the Academy that you give them?—Yes, quite.

8847. That is apart from the question of the cadet corps?—Yes.

8848. Which is, of course, a further stage of advance in military training?—Yes.

8849. Have you found the difficulty that the boys hesitate to go into the Volunteers on account of the recruit drill?—I have reason to believe so.

8850. Of course you have children here over the ordinary school age, a very large number; the average is fourteen and fifteen, yours is up to sixteen and seventeen—Yes.

8851. These higher ages would be the ages that should find a place in continuation classes?—Not exactly; our continuation classes are made up rather of older pupils.

Continuation Classes.

8852. Older than these ages?—Yes. It is not the Academy-trained pupil who comes back to the continuation classes; it is the elementary school pupil who leaves at the age of fourteen; and although the continuation classes in Dumfries have not caught this pupil to the extent we should like—these pupils of the age of fourteen and fifteen—yet we hope to do so.

8853. How do you hope to catch them; by what attraction?—By the attraction of the subjects. The last year is the first year in which the Academy of Dumfries has had continuation classes under the Code, and the success that has attended these classes is very promising.

8854. What subject attracted them, then?—Well, we had drawing for engineers, and building construction for young builders and joiners, shorthand, typewriting, French and German, and Art classes.

Military drill.

8855. And did you give them military drill?—We had a military drill class there last year consisting of twenty-eight.

8856. A very fair number. And you see from the ages that I have given that the pupils were older than we wished to have them. I should like to have them coming in at the age of fourteen.

Teachers: ordinary staff; civilians unable to give word of command.

8857. Then I see from your evidence that you are perfectly satisfied that the teachers in the school are quite competent to instruct in what you call military drill?—Yes, except in the case of the older teachers who attended this year. There were some men of fifty or sixty. Of course one could not expect to——

8858. But both male and female teachers have shown their aptitude for instruction?—Yes, certainly.

8859. Have you met this difficulty which has come before us, inability of the civilian to give a proper word of command and get a proper response from the pupils?—That is the chief difficulty.

8860. You have found that?—I have found that.

8861. Is it found in both the male and female teachers?—In both; more particularly in female teachers.

Military training: former objections.

8862. Then one other point; have you found any objection in Dumfries among the inhabitants to the use of military training?—When I went there five years ago I had considerable difficulty in getting the boys to take drill, and in getting parents to allow them.

8863. But the boys themselves would have jumped at it?—Both parents and boys were at first unwilling, but now there is a growing interest.

8864. Can you say why the boy in the first place was unwilling?—Because he had not been so much disciplined in drill previously.

8865. And why was the parent unwilling?—Because the parent thought it was too much play.

8866. Too much play?—Yes.

8867. Not a question of soldiering?—Not a question of soldiering. No. I know the military idea did not enter into their heads at all.

8868. Were they not able to see that it was a necessary part of training for their children?—Well, it required a couple of years to show some of them that; they see it now. I may say that there is a very great interest taken in the drill classes now.

8869. Then you have actually educated the Dumfries parents and boys?—The instructor has.

8870. *By Mr Fergusson.*—I see you say that you use the Army Handbook of Physical Training. Have you experience of any other system except the army system?—No.

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8872. And you have no means of comparing that with any other system?—No, I have not.

8873. Are you quite satisfied with the Army Handbook as a system for young children?—Quite satisfied.

Time.

8874. I see from your time-table that for the first class you give seventy minutes a week; all the others seem to be one hour a week, in two half hours, except three half hours in one case?—Yes.

8875. Would you be afraid to extend that time for physical training?—No, I should prefer to extend it. It is the difficulty of getting it into the time-table, there are so many other subjects.

8876. But I mean by taking a little time off the other subjects and putting it on to physical training?—That would be possible.

8877. I will tell you why I ask. We have been given an instance of a school where the boys were given three hours a week of physical training, and we were told distinctly that not only this did not detract from the high standard of the book work, but increased it?—I should be rather afraid to make the experiment.

Cadet corps: difficulties.

8878. As to the difficulties about the cadet corps, you say numbers are the first difficulty; you could not get seventy-five; could you get fifty?—I should say we could get between forty and fifty.

8879. Is there a rule which prevents fifty being constituted a cadet corps?—I understood that seventy or seventy-five was the minimum strength of a cadet corps attached to an academy.

8880. That is a War Office regulation?—Yes.

8881. Can you not have a cadet corps without intervention of the War Office?

8882. *By the Hon. Thomas Cochrane.*—You will not get the commissioned officers, and you will not get the rifles.—That is so; there would be the difficulty of supplying rifles.

Continuation Classes.

8883. *By Mr Fergusson.*—As to the continuation classes, are you satisfied with the present system of continuation classes?—As far as regards physical training?

8884. Well, or generally?—Yes; I think there is a future for them.

8885. Do you think it handicaps the physical training that you have to take some other subject along with the physical training; physical training does not count by itself?—We should have had larger numbers in the drill class if it had not been for that restriction.

8886. Would you be averse to physical training being allowed to be taken by itself?—No.

Compulsion advisable.

8887. Would you advocate any continuation classes being made compulsory for boys between fourteen and seventeen or eighteen either in physical training or in any other subject?—I think they will never be on a properly satisfactory footing until they are made compulsory for young boys between fourteen and fifteen. It is these that will not come to the class; they come after they have reached the age of seventeen or eighteen, when they begin to feel they require the instruction.

8888. But from fourteen to seventeen, do you see any practical objection to making them compulsory?—No, I see none.

Physical training a compulsory subject.

8889. Would you like to see physical training made a prominent feature or made a compulsory subject for these lads?—I am afraid objections might be raised to making physical training compulsory. People might say that the military spirit was being fostered in the pupils. I think that should be avoided.

8890. But when I say physical training, I do not mean military subjects at all. I mean free exercises and gymnastics?—Well, if that were clearly understood, I do not think there would be any objection taken.

8891. Then as to boys and girls, do you have a special dress for the girls?—If we have a senior class. We have had a senior class of girls with special dress, but there was no such class this year.

Girls a dress.

8891A. Is there any difficulty about that; the expense, for instance?—Yes. We had it only one year.

Teache classes certific conditi

8892. Then as to the classes for teachers. I see you give one hour for thirty weeks; thirty hours is what you consider sufficient to make a teacher qualified to teach physical exercise?—I did not mean you to understand that.

8893. I think that is what you say, the one hour each Saturday for a period of thirty weeks?—Yes, but I do not think the Scotch Education Department recognise thirty hours' instruction as sufficient qualification for teaching.

8894. That appears to be all the instruction they can have?

8895. *Sir Henry Craik.*—They would need to go to two courses before they would get our certificate.

8896. *By Mr Fergusson.*—That is what I want to know?—I may say with regard to the present session's class of teachers, the School Board of Dumfries is now authorised by the Education Department to issue certificates of satisfactory progress and attendance, not certificates that they are qualified to teach.

8897. Then I see one of the conditions is that they have to take up another subject; they are not allowed to take up physical training by itself. 'The teachers 'are paid their travelling expenses by the County 'Committees on condition that they also attend a class 'either in drawing or nature study'?—That condition is laid down by the County Committee, not by the Department.

8898. Is that a hindrance to the teachers learning physical training?—No; I think it is to secure that the teachers will really do something for the travelling expenses that they get from the County Committee—that they will not simply come in and take one and a half hours of drawing.

8899. But is not learning physical training something?——

8900. *Sir Henry Craik.*—That is not a condition of the class; it is only a condition of their getting their railway fare for it.

8901. *Mr Fergusson.*—But that is a very serious condition; they are refused their expenses if they take up physical training only.

8902. *Sir Henry Craik.*—The railway expenses only.

8903. *Mr Fergusson.*—I do not know; we have already been told that that hindered some one, but I think it is quite a fair point to inquire into.

8904. *By the Chairman.*—I suppose some of these teachers come from considerable distances in the country before they strike the railway, do they not?—Yes, very long distances.

8905. Is your school the only school of the kind in the county?—The only High School.

8906. There is none in Annan, is there?—No. I think in the case of the older teachers it might be desirable to make some arrangement by which they might receive their drill elsewhere. It is a very great hardship for them to come. Some of them start at six or seven in the morning, and do not get home till six or seven o'clock at night every Saturday throughout the session.

8907. I do not know how you are to get over that; you cannot get any better plan; you all agree that it is very advantageous to get them all trained in a uniform way?—Yes, certainly.

8908. So that if a boy leaves one school and goes to another, he does not find a different system?—Yes.

The witness withdrew.

Mr A. Alexander, examined.

8909. *By the Chairman.*—It is very good of you to come and help us. You are director of the Liverpool Gymnasium.—I was.

8910. You are honorary secretary of the National Physical Recreation Society?—I was.

8911. And author of *Modern Gymnastic Exercises*, *Healthful Exercises for Girls*, and so forth?—Yes. My present position is Principal of the Southport Physical Training College; that is my most important position.

8912. You propose to tell us something about Swedish gymnastics, German gymnastics, physical training in Switzerland, physical training in France, physical training in America, and some information about the advantages, first, of all military drill, and, secondly, on national physical training?—Yes, I should be very glad to try and do that.

8913. Then under the head of 'Swedish gymnastics,' you tell us that in Sweden it is under Government control?—That is so.

8914. Each town has its own gymnasium and teacher?—That is so.

8915. Periodical inspection is the rule. In Swedish drill no apparatus or music is used?—Yes.

8916. Pupils would rely on will-power for precision and benefit?—Yes.

8917. The system is prejudicial to mental study?—That is my view.

8918. The Swedes are inferior in strength and activity. What have you to tell us about their national, what is called 'Gymnastik Festen'?—Would you allow me to go over the previous points just a little, and if you would kindly just assist my memory, not being able to see, by giving me the various headings.

8919. Very well then, you want to speak first of all, 'It is under Government control'?—Yes.

8920. And each town has its own public gymnasium?—That is so.

8921. Periodical inspection?—That may be important. They have a Government inspector who goes round to each town periodically, not only in Sweden, but he covers also Norway—Norway, of course, belongs to Sweden—and he sees that the system which is carried out is in conformity with the Government rules; he also sees that the proper average attendance, not only of the school children but also of the civil population, has given its attendance at this particular gymnasium, and that the local official is responsible for the attendance; he then embodies this in the report, and just furnishes his own Government with it each year. I have seen those reports; I am not very proficient in the Swedish language, but it is pretty much what I say. They also have another branch. I do not know whether it would come under the examination of this Commission or not, but they do a great deal of what is called—it does not matter about the name—but what they mean is this, they take up cases of invalid children, suffering from deformities: they take great notice of these kind of cases in these various towns, and the local man gives a return of the number of cases treated in that way, such as spinal curvature, abnormal head, deficient chest developments, and so on. They take up these cases locally, and he gives a report to the chief inspector, who embodies it in his report. That is a little different to what most countries do. I do not think any other country does that.

8922. Then you say there is no apparatus or music used?—No, there is no apparatus or music used at all in the Swedish drill system.

8923. And they rely on will-power for precision and benefit?—Yes.

8924. Then you say the system is prejudicial to mental study; will you explain that a little?—Well, they entirely rely upon will-power. For instance, they say, 'We want the right hand to go above the head,' so; or this way, that is the way they generally use the hand to go above the head. The will, of course, tells the muscles to do that. Now, in the English system, or any other system that I have seen, they generally get some other kind of cue to go up; they get a word of command, or a note of music, and why I consider the Swedish system is prejudicial to mental study is this: the students say, take the students of a large school in Sweden, at Stockholm, I have examined the children at the central school there. Now, the children would be kept in a state of nervous tension until the teacher would give the word of command. For instance, he would give the order, 'Head right,' which is this movement—turn the head to the right side (*illustrating*). Well, now he expects every child to go like lightning into that position, and if the child is a second, or half a second, behind, he gets 'called over the coals,' as it were, for it; so that the child is kept in a constant state of nervous tension to go from one position to another. They say, 'Heads right.' They all go like that. 'Front,' they go there. Then, 'Heads left'; they go left, and then he keeps them in this position for rather a longer time than we would consider good for the health, and that is only just an instance of what he does to all the muscles of the body. Their exercises are what we call localised. They commence at the foot, and they give all the exercises, just as I have shown for the head, for the feet. Then after they have finished with the feet they go to the legs.

Nervous tension.

8924A. Have you seen the Swedish drill at all; much of it?—I will just stand here to give an instance of what I mean. They go through the movements for the feet first of all, and then they do the leg movements, out here, and they keep it out a certain time until they count four; and then they do the waist movement in a similar way—turn to the right—and they keep in this position for some time, just about that period, and then through, and the great point is that the children are all on the *qui vive* to listen for the word of command of the teacher, and, if they are the slightest bit behind the others, as I say, they get reprimanded. Now they do waist movements; then go to the chest movements, and after they do the chest movements they go to the shoulders. The chest movements are very like ours. Then to the shoulder movements. This is a specimen of the shoulders (*illustrating*). They wait in that position for a long time. Set up shoulders; go back very quickly again, and then they ask you to reverse very quickly again, and they keep them in this. I hold that this constant nervous tension of the children being on the alert to catch the word of command of the teacher is prejudicial to their brain rest, at any rate I think they are always kept too much in this state. Very often their precision is wonderful; but I think it is gained at the expense of nervous tension. Then they go on to the head movements.

'Gymnastik Festen.'

8925. You also go on to say that the Swedes are inferior in strength and activity?—Yes, that is so, because we have tested that on one occasion by bringing over to their 'Gymnastik Festen'—which we might compare to the Military Tournament here, only on a larger scale. They had it in the barracks and grounds of the Life Guards at Stockholm, where they also have a large number of fields. Then, for the purpose of economy, they only hold this every five years, and they do it primarily, in order to give a certain amount of emulation to all their various towns and villages over their two countries, Norway and Sweden; and they are conveyed carriage free up to this place. That is a certain section of the people—all competitors are conveyed, and they have their expenses paid free up to Stockholm. That is done, as I say, for the purpose of emulation, and so that they may return back to their homes having some knowledge of novelty in physical exercise. They also issue invitations to all the other nationalities of Europe and America, to the various gymnastic societies, and so on; and each sends a contingent over to this 'Gymnastik Festen.' It is quite a Government affair. The Government are responsible for all the arrangements, and for the awarding of the prizes. The prizes are rather handsome, and they attract a large number of

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competitors of various sorts. The last time I was there, there were about 2000 competitors, and many thousands of spectators. The King and Court were taking every interest in it, and all the military authorities.

8926. I think the Commission fully understand that. You say there are climatic and economic reasons for their system; I want you to explain that a little?—At this competition I could only bring about a dozen with me. On that occasion I was captain of the team, and the foreigners had only about a dozen events open to them. The rest were all closed—to the Norwegians, Swedes, Finns, and Russians; but in all the other competitions that were open to the foreigners, of which we were an example, we won the first prize in every case.

Swedes inferior in strength.

8927. *By the Hon Thomas Cochrane.*—Who were 'we'?—The English competitors.

8928. In Sweden?—Yes.

8929. *By the Chairman.*—When was this, please?—1895 or 1894; some time about then. I know they were not nearer than sixth. The ones that came after the English were the Norwegians or the Swiss people. There were one or two Americans in this, but we won every first prize—the English—and I think we substantiated our claim.

8930. What sort of competition was it?—Well, they have different names for them there to what we would term them here. Say the 100 yards flat race, they call it a short run; there were about 200 competitors in that.

8931. What else besides the 100 yards flat race?—The high jump, hurdles, putting the shot, etc.

8932. And the high jump, yes?—And in that particular item there were about 100 competitors, and each of the foreigners brought a spring-board under his arm and placed it under the high jump. They asked us where our spring-boards were, or our 'board spring,' as they termed it. We told them we never jumped with a spring-board in our country. We were rather disappointed. I had brought two very clever jumpers over with us; but we waited to see what they could do in jumping with their spring-boards—they only did 5 feet 6 inches. We asked them to clear away the spring-board, and our first man did 5 feet 10½ inches; our second man 5 feet 9½ inches, so that I consider we substantiated our position in those points that I have named, and the Swedes were not nearer than fourth or fifth.

Climatic reasons for system.

8933. As to the climatic reasons?—In Sweden it is a very cold winter. They have a winter of about ten months. I should say nine and a half or ten months, and it is a well-known adage amongst people who go in for physical training that the man who makes himself warm with exercise is doing a great deal for ensuring himself a long life, so every time they get cold you will see them in the fields going through some regular movements with their body. Now, if they had any elaborate system of physical training, they could not possibly do that.

Economic reason.

8934. You will see them in the fields or woods—you will see them in the woods going through these quick, vigorous movements, and in the streets; in fact, they are exercising from morning till night in that way. That is the climatic reason, and the economy of it is this, it is a poor country, and the system costs nothing. Their large gymnasia are simply large rooms fitted up with no apparatus at all like we have in this country, but with a few specimens of apparatus suitable for those medical gymnastics that they introduce occasionally. These are the two reasons, I think.

Monotonous system.

8935. *By Mr Alston.*—Being under Government, we understand the system is uniform throughout the two countries?—Not in Norway. The Norwegians broke loose from the system some few years ago. It was not quite suitable for their character, and the Swedes themselves complain of the monotony of it. As young children they do not know what monotony is, but as they grow up they gradually get tired of the system, and no one is in favour of it except the Government, who have it for the two last reasons mentioned, especially that of economy, and for the teachers, who find it very lucrative going abroad and obtaining posts; but the Norwegians, who are a very independent race of people, broke loose some years ago: they insisted on having a system very much like the Danish. The Danish system consists of variety.

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8936. Is it monotonous because the system is regular?—That is so.

Swedish in Lond Board Sc

8937. Is this Swedish drill the same thing as we have in the London School Board Schools among the girls?—It is a little better here; it is not quite so monotonous in the London Board Schools as it is over there. We have a greater variety of movements here than they have, and whenever they have any *fête* at the Albert Hall, or anything of that kind, I think they are obliged to promise the girls that they will allow them to do something else more varied still. If you have ever been at any one of these entertainments, you will notice that the Swedish drill takes up a very small part of the programme.

Effects system.

8938. *By Sir Thomas Coats.*—We were told by one witness that the Swedish drill had more effect in loosening and suppleing the joints than in forming muscles. What is your experience of that?—Yes, that is my experience quite. If you have a resistive power in the hand, it requires in proportion a greater muscular effort, and muscular effort means muscular tissue, and too much muscular tissue prevents looseness of the joints, and so on.

8939. Would not that make them very active—more active than muscular, perhaps?—No, I do not think so, because you have to have a certain amount of antagonism or resistive force if you are training up for anything; you must have something to grapple with. To better explain what I mean. They seem unable to get what we call in this country 'steam up' quickly. Our men would get in this position (*illustrating*), eager to run; getting the position of the body right for starting a run. They would pose in elaborate positions, which were quite unsuited, and they seemed to be unable to get up the power.

Compu ry Swede

8940. *By Mr Fergusson.*—Is it compulsory this system?—In Sweden it is.

8941. Up to what age?—Well, they carry it right through up to adult age; they commence as young children at about six years of age with simple movements.

Age li

8942. Yes, but what is the compulsory limit—twenty, eighteen, or what?—I think it is about twenty-five.

8943. Then you said it was specially directed to deformities—curing deformities; is the system successful for that purpose?—Yes, I think it is very successful in many cases of deformity.

Milit music prefer

8944. Then I did not quite understand you how the nervous tension was greater in this than in any other system, because wherever you have a word of command and smartness, must you not have brain work?—Well, not in music, for instance. You get started off with your exercise, and you entirely rely upon the music to carry you back and forwards. You go to march time, say, for military or the musical drill. Either the military or the musical drill system is better for that reason, because you do everything to march time.

8945. Then what you wanted to advocate was the musical system in place of want of music?—Yes, I would prefer the medium system. My reason for advocating it is this, it requires so many movements to develop a certain muscle on that limb, or a certain number of movements to develop a chest to any extent. Now if they do these movements without music, just by the nervous tension of the body, they could not do the necessary number required, it would be so fatiguing; but if they utilised the music they would be able to do these movements without fatigue. If I give a parallel case of a regiment of soldiers marching a considerable distance with and without a band, or a number of persons getting up to dance with and without music, the effort in the one case is extremely difficult, hard work in fact; in the other case it is an enjoyment.

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8946. *By the Hon. Thomas Cochrane.*—I should just like to ask what has been the general result upon the

population of Sweden of this compulsory system—in physique?—It makes them very straight in the figure, which is a very nice thing to see, and it makes them healthy. These are the two things in its favour, straight and healthy physique; but, on the other hand, it makes them effeminate and stiff.

8947. And why do you consider this system prejudicial to mental study; what experience on that point have you had?—If you take a school where they are very hard worked mentally——

8948. Could you give concrete cases, not theoretical ones; but can you give any practical results of your experience?—Well, I will give you a parallel case in England. I will take a case in England in one of the Board Schools, say in Liverpool. They are pretty hard-worked there, like they are in all Board Schools, and the teacher has the option when he sees a sense of fatigue, of resting the pupils, to make them stand up and go through a few movements. They go through a few movements of what is known as popular English movements. The school teacher will perhaps play a few bars of music, and they will carry them through to this music for about three minutes only. That is rest. That is done with a view to resting the brain from studies that they have been going through, by giving them an entirely different kind of exercise. That rests the brain, but if the Swedish teacher——

8949. I think I can get to the point quicker; it is not physical exercise but the special exercise that you think fatiguing?—Yes.

8950. I gathered from this that you thought any physical exercise was prejudicial to mental study; that is not what you intended to convey?—No; that is only because of nervous tension of the Swedish system, there is no change from the mental state to the nervous tension, that was my contention.

8951. *By the Chairman.*—In Germany gymnastics are under the Government supervision; they have remarkably spacious gymnasia, and there is variety of apparatus and exercises. Resistive and antagonistic qualities are claimed, also ambidexterity; objections; abnormal development, non-athletic, too much compulsion?—Yes, that is so. The first two or three are well known. It is pretty much the same as in Sweden; I need not recapitulate, but they have very fine gymnasia—enormous gymnasia. The one in Berlin, I think, for instance, is about 250 feet long. The gymnasium of which I had charge at Liverpool—which was supposed to be the largest gymnasium in the world until this Berlin gymnasium was fitted—is about 100 feet long or 110, so the Berlin gymnasium is more than double the size of the largest of the English. But they use these gymnasia very largely for military purposes as well. They only have one end of the gymnasium fitted up with apparatus, and the rest of it is used for military evolutions, which form a large and conspicuous portion of their training. But in the school the school authorities have a gymnasium indoors—and they also have it outside, with similar apparatus. They have contrived a very wise provision of always sending the children out of doors when the weather permits, and there they go through the same amount of apparatus work. The system is compulsory, and, of course, they are very anxious to carry on this to an adult age, and so they make the exercises as varied as ever they can; they also make the apparatus as varied as ever they can, and by that means they entirely do away with the monotony which exists in the Swedish system.

8952. About the qualities claimed, the resistive and antagonistic qualities; also ambidexterity?—Well, the German authorities consider that physical training ought to enable the civilian or the schoolboy to commence at the earliest possible age with what we call resistive force; something to grapple with. He considers that when the boy grows up he will have to grapple with some kind of difficulties, either as emigrant, or in the army, or in some profession or other, and so from an early age he makes him go in for what we call resistive work. That is, he never allows him to go through exercises without something in his hands; sometimes it is a wand, sometimes it is a dumb-bell, sometimes it is a piece of steel. Their system is mixed up with complex apparatus, such as climbing ropes, ladders, and so on. The German is a firm believer in that, and they also believe in the principle of antagonistic force from an early age; they make them practise wrestling with each other, and tugs-of-war; not like the English tug-of-war with a rope, but a long pole; and they also push against each other—they call that antagonistic work—in order to develop the effort of antagonism between one individual and the other. They carry that principle out to an adult age. Then, the point of ambidexterity that they claim, is rather one that we ought to concede, I think. They make everybody in Germany use the left hand as much as the right in their physical training, and by that means the German artisan, even when he is a small boy and goes into these toy factories, is said to get through a good deal more work than ordinary individuals, say from England, would do, who can only use their right hand. Even in the iron works in this country, Germans get a shilling or two shillings a week more, and one firm in Liverpool, I know, will give two shillings a week more, on the principle that they get through more work than a right-handed man. And so they claim that this ambidexterity is a principle very advantageous to them, and all their physical training is made up with those three principles in view. Everything is alternate. I will just show you what I mean (*illustrating*). English people will put up their hands so (*illustrating*), but this is how the Germans do—right up, left up; left out, right out; right forwards—left forwards. In fact, they make the left hand do everything that the right hand does, and I think it is a very good plan. Ambidexterity.

8953. The objections are, you say, abnormal development; they are not athletic, and there is too much compulsion in their exercises, and the result is they are too muscular a race of people?—The Germans do it too much. They put children on to apparatus, in my opinion, at too early an age, because you cannot use apparatus to resistive force unless you get muscles in proportion, so I think they are very ill-advised in placing their children on apparatus at too early an age, and they give them too much of it. The result is that if you examine a squad of Germans, as I have done many a time, examine all the various muscles, say, of the body, the principal development occurs at the shoulders and at the shoulder blades. They have enormous shoulders and very large biceps, but their legs are very deficient in development. They do not go in for athletics like we do in this country, therefore they have thin, spare legs, and they have very large hips, and for that reason they do not make good athletes. In the athletic competitions we have had with them—although the English were only a medium team, we could make sure of victory over the Germans for that reason. They are too abnormally strong, too heavy in their muscles. Muscles weigh very heavy, and they are too much developed in the upper quarters. Objections.

8954. *By Mr Fergusson.*—Might I ask a comparison between the German and the Swedish; taking the whole system; which do you think is the best?—I should think the German. German system preferable to Swedish.

8955. *By Sir Henry Craik.*—What do you mean, Mr Alexander, by too much compulsion in adult age?—With reference to the German? Well, they have a register in each of their towns, and they expect the civilians to put in an attendance at the gymnasium, I think, once a week up to thirty years of age, and the Germans having been at it since they were seven or eight years of age, and in spite of the variety which they give, and other means which they employ to make it as cheerful and as nice as possible for them, still can have too much of a good thing, and having been at it all their lifetime, and having to bear in mind they have conscription as well, so—as they say in Germany—I cannot give the German of it, but it means this—after thirty you cannot find a thin German, because they all run into flesh. They drink lager beer and seldom take Too much compulsion.

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exercise at all after thirty; they have had so much of it all their lifetime.

Profession: medical training.

8956. *By the Hon. Thomas Cochrane.*—What is your profession?—A physical trainer—I think I am the only instance in this country of a man having been trained as gymnastic teacher from the age of twelve, and to nothing else. For the purpose of my health I was obliged to follow it from the age of twelve, and I have been thoroughly trained in every branch.

8957. You mentioned having inspected Sandow; did you inspect him from a medical point of view?—I made a physical examination of him; I am consulted by the leading physicians in this country on anything connected with physical training.

8958. Have you got any certificates?—No, none whatever.

8959. You are not a qualified medical practitioner?—No; I was going in for it, but stopped half-way, because my present profession is too lucrative. I thought a bird in the hand was better than the other.

8960. You are not qualified to speak as to the condition of the heart?—Oh, yes.

8961. Or any of the organs?—I have got medical certificates for physiology and hygiene and muscular movement. I have got all those certificates, but I am not a qualified surgeon or a qualified doctor.

8962. From what college did you obtain those certificates?—I was trained by the leading surgeons. I went as a private pupil to the leading surgeons at Dublin. I am pupil of Dr Wayland, who was the head of the Children's Infirmary in Dublin. I was a pupil of Professor Larkin, of the University College, Liverpool, Professor of Anatomy.

8963. And you hold diplomas?—I have their certificates, their letters.

8964. Only letters. You do not hold diplomas and certificates that appertain to the medical profession. You are not qualified to practise in any of these subjects. It is just as well to get down what it is?—No, I have no medical certificates qualifying me to practise—only experience. I have been used as an expert by the Aldershot authorities.

8965. You have been used as an expert in the training; you have been competent. There is a difference between that and being a qualified medical practitioner?—I am qualified to train a class in physiology and anatomy.

Swiss system.

8966. *By the Chairman.*—Physical training in Switzerland is under municipal control. There is a variety of exercise; skill and activity aimed at?—That is so. In Switzerland it is rather under the municipal than under the Imperial control. Each municipal body provides its own large gymnasium, and appoints its own teacher or teachers, and devises its own rules. They aim at variety; they aim at skill and activity, and they get that by providing a certain amount of variety—a great amount of variety—in their drills, and a fair amount of variety in their apparatus. They like skill perhaps better than anything; and it is rather interesting to see the school children; or in the continuation classes later on standing round a piece of apparatus working out a gymnastic problem. They go in very much for displaying skill in these matters. It is interesting to those who know anything about it; and then they are very fond of agility, very fond of vaulting over the horse, or high jumping, and all that sort of thing; but they are not up to the English in activity.

Vocal accompaniment.

8967. You say they have a partiality for vocal accompaniment with their exercises?—Yes. They appear to be a very cheerful and merry race of people, and when I went over there the municipal authorities of Berne were good enough to get all the school children together to go through their various evolutions, and I never saw anything with which I was so much pleased in my life. All these children went through the various dumb-bell and other movements we have in this country, but to every movement they sang a chorus of Tyrolese airs, and they seemed to thoroughly enjyo this; they seemed to give such zest and energy to their movements which you never see elsewhere. They had this cheerful music provided for them to carry them through their exercises. They showed me, in fact, in a striking way the difference between the Swedes and their system. The Swedish pupils could not have got through one quarter of their work without feeling thoroughly exhausted; but the Swiss, by the introduction of this cheerful and enlivening music, chiefly vocal, were able to get through a vast amount of work, and, of course, provided a better development. As a race of people they are much superior to the Swedes, and of much better figure than the Germans. Out of those three I should prefer the development of the Swiss.

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8968. Then you say that the advantages claimed are mental rest from school studies?—Yes, that is so. I asked the teachers of the Central School at Berne why they introduced vocal music, and they informed me 'that the children are very tired over their 'studies, and we get them out here and put them 'through this drill; they sing to it, and forget all 'about their studies, therefore they are having a 'complete rest from what they have been previously 'doing—that is brain work.' That is what they claim for it, and I think they are right.

Gymnast continue adult age

8969. Gymnastics, you say, are continued in adult age?—Yes; they seem to have such a cheerful existence as young people, and especially in that part regarding the skill and other interesting parts of their work, that they keep it up in adult age, and the various municipal bodies have got one society in which they confederate together, and every year they have a very large *fête*, similar to the Swedish Gymnastik Festen. They hold it either at Lucerne or Geneva, and they have 50,000, 60,000, or 100,000 at a time going through these evolutions, and they march to their rendezvous with their banners flying; they seem to make a great fuss about it, and to be thoroughly happy and to enjoy themselves. I think their system is very interesting, and it is a very wise system that can lead the children up to such a life in adult age afterwards; they seem to be thoroughly cheerful, and thoroughly satisfied with their kind of life.

Kind of physica training

8970. *By Mr Fergusson.*—I do not quite understand what sort of physical training there is in the school for the children; is it free exercises, or what?—They generally have something in their hands; their principal apparatus is a wand—a slight wand—about five feet long and about half an inch in diameter. That is their principal piece of apparatus. They go through movements—physical motions—slight free movements—only with this wand in their hand; most interesting motions; one there, or another one there, or they may come up here and do this business (*illustrating*).

8971. Rather a bar-bell business?—Only much lighter than the bar-bell—much cheaper; of course these only cost about a farthing each.

Mental

8972. When is the mental rest doing these exercises?—The benefit consists in the exercise, and the mental rest, in my opinion, consists in the music, vocal and otherwise, which takes them away, makes them forget all about their lessons and brain work.

8973. I put to an expert witness this question; he had been telling us if the physical exercise was to be of any use, you must concentrate the whole of your brain upon the particular muscle you wished to exercise. I said: 'Surely for children you are 'going out of the frying pan into the fire; that is 'a mental strain; it is no relief from their book work'? He said: 'Unless you use your mind for any physical 'exercise, it is no use whatever.' What do you say to that?—Well, I am afraid I must differ from him. If it were Sandow who was talking and wanted to develop abnormal muscle at any particular part, he would be quite right, but in the case of children, I think it would be ridiculous. The lion and tiger are strong, but do not use mental concentration.

Frenc system

8974. *By the Chairman.*—Then we go on to France. You say physical training in France is under Govern-

ment supervision, but based on English methods?—Yes, the French are very fond of altering their system. My experience runs back for over forty years. In that time they have had four changes, but they generally keep to what is known as the military system. They are very fond of marching and formations, and all the various military systems; but some ten years ago the Government instructed a commissioner to visit this country—a certain M. Sahe; he was sent over with letters of introduction to Dr Warre, Dr Lyttelton, and Mr Herbert Gladstone. These gentlemen sent him to me. I conducted him through the various educational centres of this country, and showed him our various kinds of work, and what he was most pleased with was the athletics of England. He returned back to France, and by a decree of the educational authorities over there, they devised a certain course of dumb-bells and bar-bells and other light gymnastic work, and they call it the Anglo-French system of gymnastics. They also go in very largely for the athletics of the English now, and you may say, speaking generally, they are striving very hard to emulate the English in every way, both in their exercises and in their games.

8975. *By Mr Shaw Stewart.*—Will you kindly repeat the name of the French gentleman?—M. Sahe.

8976. And what year was it that he came over?—I think it was about 1895 or 1896—about then.

8977. *By Mr Fergusson.*—Is the system a satisfactory one in your opinion?—Yes; I have frequent letters from this gentleman. He is most enthusiastic about it, and he says they are going on splendidly there, and we can see by the newspapers. Sometimes they beat us in a boat race now, and a game of cricket, and so on.

8978. *By the Chairman.*—Then physical training in America. Each State controls its own training?—Yes. About the year 1894 there was a gentleman went over to the Continent from the Washington authorities, and he brought a letter of introduction, first of all to myself. They knew that I was conversant with the European systems, and I gave him all the information I could. He went over Europe, after which he called upon me. Then he returned to Washington, and made his report, but each State differs in their opinion about this report of his. I suppose that one State is largely composed of Germans or one nationality more than another, because some favour the German system, some favour the Swedish system, and others favour some other system; but, speaking generally, the majority of the States are what we call eclectic—I think they call themselves—that is to say, they will not have any system; they prefer entire freedom, and so they have plenty of variety, and I think they are very wise in their choice, at anyrate, in having plenty of variety. They ask for perfect freedom in the matter, and they have it—each State.

8979. You say, 'The town gymnasia are luxuriously 'fitted up'?—Yes, they are most ridiculously fitted up with all sorts of polished woods and velvet coverings, and the apparatus is most gorgeous. It is almost unnecessary that sort of thing. I know that school children in this country would not respect it very much if they were let in there. I fancy the reason for doing it is to attract the civilians into the place, and to be a little better than anybody else in their fittings.

8980. Every township possesses its own gymnasium and teacher?—Yes, and then the teachers have a record, and the public schools send their children there. These teachers teach the civilians in the evening time.

8981. And records are kept of development, that is, the measurements?—Yes, they are very fond of that.

8982. *By Mr Fergusson.*—Is it compulsory?—It is compulsory in every State in America.

8983. Up to what age?—Up to school age—leaving school.

8984. Fourteen?—Fourteen.

8985. And after that?—No, it is not compulsory after that, but they generally form themselves into a cadet corps after that, and have some connection, but it is not compulsory.

8986. *By Mr Shaw Stewart.*—As you say, there is a predilection for records?—Oh, that is so. Yes, it is very ridiculous that, but if you go into an American school or gymnasium, a child will tell you that he can lift a dumb-bell ninety-nine times above his head, and another one will tell you that last week he did it 101; and so they are fond of doing that sort of thing, and the same principle is carried on in adult age. I know one man who said he could lift a dumb-bell one thousand times above his head, and so on. Well, of course that is all very injurious to the proper physique of the child, and the proper and sensible physique of the man, and I should hope that nothing of the sort would ever occur in this country amongst children.

Competitions.

8987. Is that love for records encouraged or discouraged by the instructors?—It seems to be rather encouraged. I think he rather likes his college or his gymnasium to be the best in the State, and so on. They talk very loudly about that sort of thing, and it is a great pity. That principle applies not only to physical strength, but to activity and everything. These records are one of the worst things we can have amongst school children, or competitions. I do not believe in this excess of competitions. The teacher devotes all his time to a special few, and neglects the majority, for the purpose of abnormally developing a few to gain prizes. I think it is a bad principle.

Military drill and physical training: contrast.

8988. *By the Chairman.*—Then you go on to contrast military drill and physical training. You take military drill, as you say. It is useful for organization, and not suitable for physical development?—That is my opinion.

8989. Swedish drill is very insufficient, but abnormal development should be avoided?—Yes.

8990. What is the happy medium between those two that you wish?—Well, the military drill, of course, is most useful in many ways. Of course, for forming-up in line, and conducting the pupils from one room to another, and so on, certain of their movements are useful, but when we consider that that physical drill of the military is only used for recruits who have passed a medical examination, I do not think any of us can say that it is a useful one for children also.

8991. But do you mean to say that the trained soldiers do no physical training?—Yes, the trained soldiers do, but they give the same training to the children, and I think that is not wise.

Military exercises unsuitable for children.

8992. Oh, to the military children?—Yes, all those children where the position of instructor is filled by a military man. For instance, I visited, say, a Board School at Liverpool some time ago. There was a military instructor there. He told the children to touch their toes, with stiff knees and stiff arms. Well, that is a very good exercise; but then our military friend did not use proper discretion over it; he got them in that position (*indicating*), while he gave a long lecture to them on the advantages of that position. When the children rose up again their faces were purple, and there were large veins at each side of the neck, showing the extremeness of the movement. Many of these children are underfed, and unable to go into any such position for such a length of time as that. They do not use proper discrimination over their movements, and the exercises as taught in the army are not suitable for young, delicate children, and there are, of course, a very large number of young delicate children in Board Schools, and they ought to have special exercises set for them that would meet their particular case.

Suggestions.

8993. What are the special exercises that you would recommend, because that is rather what we want to get at?—Of course I could give any amount, but what I would suggest is that they would have something like the Swiss system, like the light wand exercise. I can show them if you would care to see them; it would take up a little time. What they want is light wand exercise, and what they want is music adapted to it, to make them cheerful, just like the Swiss children's system—

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very largely cheerful, light exercises, because they are growing, and they cannot stand too much strain upon their young weak bodies, because they are not properly fed—half of them. It is like trying to get steam out of a locomotive without any coal in the furnace.

National physical training: aims.

8994. And you say national physical training should aim at health, activity, endurance, and recreation?—Yes. I think a man, an Englishman who has these qualities, is the best kind of physical Englishman, and I think we ought to do our best in our elementary school system to try and develop that kind of man. Exercises of activity and endurance in the way I would suggest, that would be activity, anything in the way of running or games, or high jump, or light musical drill. And, of course, of endurance; I would have at the end of every playground a series of light climbing poles, in order to teach these children to climb. Very often the climbing children are active, and if they can go up a pole once or twice or three times it would all add to their endurance—their powers of endurance. And another thing is, it straightens the spine in children to have these spinal muscles developed by climbing. They are the principal muscles developed in climbing, the spinal muscles as well as the shoulders and arms, and so it would mean that they would have a straight back for the rest of their lifetime, and that is a very useful thing.

Physical efficiency test.

8995. You think a test of physical efficiency should be exacted from school children?—Yes, every child that goes from one Standard to another ought to have some little kind of proof, in the way of a jump a certain height, or climbing the rope or pole a certain height, or running a certain distance, and I think that every child ought to be taught to swim, that ought to be compulsory.

8996. Then you go on to say you will give some suggestions as to the organisation of physical training in schools, with the view to economy and effectiveness?—Yes.

8997. When you are on that subject would you give us your opinion of dress, both of boys and of girls?—Well, I do not think I can do better than instance two well-known training scholastic establishments or systems in this country. The first is the Cheltenham College. I am familiar with the work there. There are over 1000 girls there of, say, the middle class. They are taught by a couple of trained teachers; ladies who are well educated and who have been thoroughly taught in all the physiological and hygienic conditions which appertain to exercise in the human body. They are refined ladies also, so that they can be safely entrusted with the care of their pupils, and they are also competent to take on any special case of deformity under medical supervision; they are also very good swimmers, and they are very clever at games. They are a couple of perfect ladies. They are daughters of a military man, and they were specially trained for that work; in fact I trained them myself. I think it very essential in dress that it should be loose, graceful, comfortable, and that it should not be immodest. I think they should retain the modesty of the English maiden all throughout their dress, because some of the ladies I have seen exercising have all sorts of ridiculous costume, very much like the ladies of the ballet. I think that ought to be avoided. The ladies in this college have a sort of tunic reaching down to the knees; underneath they have knickerbockers. The tunic reaches a little below the knees. They wear long dark stockings and light shoes. The dress is made of blue serge, and it has got a little elaboration. I am not up to the ladies' costumes, but it has some elaboration of ornament about it. Well now, Miss Beale, the headmistress of the college, told me some years ago that she had tried every system of physical training; but she said she had to stop the Swedish system and the military system, because they were both monotonous; they did not seem to interest the students enough, and now they have got what they call this varied system, the qualified teachers having complete liberty to do as they please, so long as their exercises are beneficial. Their medical man sees to that, and supervises the whole thing. As long as these exercises are beneficial and healthful that is all he cares for, and the present class of work and the present teachers are the most successful Miss Beale has had for many years. She has now had them for several years, and is very well satisfied. Going to the other extreme—the elementary school system—you cannot do better, in fact it is the most perfect form of physical exercise we have in this country in my opinion—that of the very successful School Board of Leeds. The Leeds School Board, I think, is the most successful School Board, at anyrate, that we have in this country. It gets more grants, and so on, from the proficiency of its children than any other. Well, the system they adopt there. Mr Cockburn, the chairman, some years ago complained very much about their physical training being in a very unfortunate state, and he was kind enough to ask my advice in the matter, and we proceeded to start a system which, I think, almost solely belongs to Leeds. They have attached to their Central Higher Grade School a large gymnasium, and an instructor, who has entire charge of the physical work. He is a gentleman, a well-educated man, and thoroughly conversant with all the physiological conditions of his work, and he has strong sympathies—a very important point with the children, and with all his pupils. He is also enthusiastic, it is a difficult thing to get, perhaps, but they have such a man there. Once a week all the male head teachers and assistant teachers are brought in, and on another evening in the week the female teachers are brought in, and they are thoroughly ground up in all the elementary work, not advanced work, but all the elementary work, which they afterwards impart and teach to their own pupils. And a special feature that they have there is, that each class teacher is thus competent to teach his own class in physical work. A class, I think, is composed of about twenty-five children. They find that a very wise plan, because each teacher necessarily knows the individuality of each of their class; they know when a child is weak or strong, or any peculiarity attached to the child, and they may take that child out of the ordinary drill and get some special exercise for it, if it happens to be weakly. The children, on the other hand, are not afraid of their class teacher, but they are rather afraid of a special teacher who comes before them, they have an affection for their class teacher, as a rule, and they go through their work very cheerfully and satisfactorily. And so that system teaches every year about 50,000 children in Leeds, a most satisfactory state of things, in my opinion; and the same system is attached to the swimming department. This gentleman has certain times for teaching the head-masters. He does not teach the ladies swimming, but he teaches them the swimming drill. He teaches the men and the women the swimming drill on land, so that when they go into the water to swim they will not receive the instructions of their teacher while they are half-choked with water; they know what they have to do when they do get into the water, and go straight at it, instead of shivering and waiting for instructions. That is a wise precaution, because it saves time. And so they teach several thousands of children every year in these Board Schools which have small baths attached to them. Then this system also is a good one, because they take up any promising boys belonging to the classes and give him a little extra drill. These boys then act as leaders in their various schools. And the same with the girls; they pick any promising girls out of the school and give them a little special instruction, and they act as leaders under their teachers; and so you have a very large and important School Board, with a large number of schools and many thousands of children. I think it only costs them about £300 a year for that large system of teaching by this gentleman. I think he has one assistant; I am not quite sure, because the system is spreading. And another great advantage about that particular system is, that they teach a very cheerful kind of drill, a medium kind of drill, something like

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Instructio teachers.

Ordinary staff.

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what I have pointed out as belonging to the Swiss people, and the children are so fond of it that they continue this drill in the continuation schools. Now, this teacher told me that unless he made this drill varied and cheerful he could not form classes in the continuation schools; 'but now,' he said, 'I have tried 'to make this drill attractive, varied, and cheerful, 'and the result is that I have splendid classes in the 'continuation schools,' and he added, 'they are exceed-'ingly popular at Leeds.' He also has cadets which he passes into the volunteer force. I do not think that young children should be trained as cadets, or have any one system which some persons at the present day try to teach them, like one 'model course,' one system of this or one system of the other. I do not advocate any one system; I think any one thing, however good, one diet, for instance, however beneficial, or one walk, however interesting, or one book, however interesting, must pall upon the imagination or upon the system sooner or later. I think one anything is a mistake. I think life ought to be as varied and as cheerful as possible while we are on this earth of ours and not to be confined to one particular anything, and I think that the child should not be placed in the cadet corps until he is at least fourteen years of age. They are too delicate; their development is not in a sufficiently forward state to handle even dummy guns before fourteen. I think up to fourteen years of age they should receive as much careful development as they can, and after fourteen they might try the cadet corps, which I think ought to be attached to the continuation classes, and then after that they might be attached to the local volunteers, and, finally, to the army. That is my suggestion about the economy and effectiveness of it.

8998. *By Mr Shaw Stewart.*—Your statement is very interesting. On the last point, about the varied system as against one set system, I quite understand that you recommend the varied system for children, but what do you recommend for the training of teachers? Should there not be one approved system for their training?—I do not think so; I think it is so easy to teach teachers. I have trained teachers of Training Colleges now for years. If I kept them three months, say, at the Swedish system, I would find them listless, apathetic, and having little interest in their work at all. Then I would give them another system, and I found the more variety I gave them, the more they liked it. They say that they cannot make the class interesting to their children unless they have variety, and they think that one system must sooner or later pall. And it is a very small matter to teach half a dozen drills to any teacher; you could teach them in a few weeks. Under a competent instructor, as at Leeds, they would learn half a dozen drills in, say, half a dozen months, and they all get more than that. All these drills are guaranteed to be the correct thing, the correct kind of medicine to give, as it were, and then they go with these half dozen drills to the children, and they can ensure that those children will love their work and be benefited by it. But, if they go with one drill, not only will they themselves be heartily sick of the one drill, but the children will be worse than ever, because Mr Cockburn, the Chairman of the Leeds School Board, told me he had tried one drill, Swedish—I am not speaking offensively against Swedish drill, but I maintain any one drill, however good, in my opinion, is a mistake; it ought to be a varied physical training.

8999. But I suppose you would be in favour of teachers being grounded in certain elementary movements, approved movements, which are calculated to be of use in developing, for instance, ambidexterity for children?—As a part of their training I would, but not as the whole; I would not let it rest there; I think they ought to have more knowledge than that if they have anything to do with children.

Variety of exercises.

9000. *By Mr Fergusson.*—But still, Mr Alexander, surely you must have some book or something of that sort to go on; some course of training for general use in Board Schools, or you would get into all sorts of difficulties, would you not? I do not say you should be confined to one form of drill; you may have a dozen forms in your course, but you must have something laid down for general school purposes when you are dealing with elementary schools?—That last remark of yours, of course, simplifies it, if they are not confined to one particular kind of drill, then, I think, there is no objection to it.

9001. You want a great variety in the exercises?—I think they ought to have plenty of variety, and I think each teacher ought to be allowed to have sufficient interest in his or her work, so that they can call upon their own ingenuity.

Music.

9002. Then let me ask you about the music; you wish music. We have been told by several witnesses that they cannot teach these exercises with music. They are quite in favour of music when the pupils have learned the exercises, but they desire to teach them without music?—But it will only take two or three practices to teach without music. I quite expected it would be understood that we always, for the first two or three lessons, teach it without music, say the first two lessons, but after that, if the teacher is competent, it ought to be conducted to music.

Class teachers.

9003. And you are in favour of the teachers teaching their own classes physical work?—Yes, class-teachers; it is the most economical, the most effective, and the most sympathetic for the children. My interests are entirely with the children. I think the children ought to be looked after in this matter.

9004. I may tell you that is not a patent of Leeds; it is practised in other places?—Yes.

The witness withdrew.

The Rev. C. T. Wickham, examined.

9005. *By the Chairman.*—You are the Headmaster of the Twyford School, Winchester?—I am.

9006. That is a school for boys of what sort of age?—Nine to fourteen.

9007. A preparatory school?—A preparatory school.

9008. A preparatory school for public schools?—For public schools.

9009. And have you been long headmaster of that school?—For nearly fifteen years.

9010. And you are interested in the subject of physical training, I understand?—Yes, of course I am, necessarily by my work.

9011. You wrote an article in Mr Sadler's book of special reports?—Yes; I wrote rather under protest; he asked me to do it, and so I did it. I have not written there as an expert in any sense.

9012. You will not mind helping the Commission?—Not the least in the world.

9013. Because your class of boys is a type of boy we have hardly reached, and, although principally in Scotland, it is one of those types that affect us as a Commission, which we have to deal with?—Quite so.

9014. May I ask whether your boys come from all parts of the country?—Yes, certainly; from Scotland and Ireland as well as from England.

9015. And you have some Scotch boys, and are in the habit of having Scotch boys in your school?—Yes, generally.

9016. So that puts you quite in the position to give us assistance?—Yes.

9016A. In the first answer on the summary of your evidence, what do you mean by the word 'possibilities'?—All possibilities—I mean opportunities, rather; I accepted the word in the sense of opportunities, and those five headings which I have put down there,

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broadly represent the opportunities. Those all exist, and I think they exist in most good preparatory schools.

Physical training: opportunities.

9017. Perhaps you will continue your notes on that understanding?—Quite so; I have done so, really.

9018. Would you read from them?—

'(*a*) Regular games, organised, trained, supervised.
'(*b*) Drill and gymnastics.
'(*c*) Athletics and runs.
'(*d*) Handicrafts.
'(*e*) Voice training.'

9019. Those are all the branches of physical training that obtain in your school?—Yes; but voice training to a very small extent and not universally, only, as a rule, in the case of boys who are musical.

Drill and gymnastics.

9020. By drill do I understand you to mean physical drill, with sufficient military drill in it to bring boys to a certain place and take them away again, or do you mean a little more than that?—More than that; it includes the free gymnastics, marching of various kinds, as practised in the military gymnasia. We have a military instructor.

9021. But you differentiate between drill and gymnastics, drill being the free exercises and gymnastics the applied?—Gymnastics with apparatus; yes, I think so.

Benefits. Games.

9022. Then you go on to say—Benefits of such training:—(*a*) 'Games give general alertness, 'accuracy, combination, intelligence of movement, '"timing" often fail to develop chest and arms.' Boys acting in combination necessarily must more quickly seize opportunities. At cricket or football they must be ready to start at a moment's notice; they must be able to use hand and eye quickly. By 'intelligence of movement' I rather implied being on the lookout how to help their side, not to be mere machines doing a certain definite exercise, but to some extent each boy depending upon his own originality of thought. 'Timing,' of course, applies to such games as cricket, boating, fives, rackets—the hand and eye working quickly together. But I have found that after giving so much time to games as we do, and I do not know how we can help doing so, the development of chest and arms, especially arms, is sometimes defective. It is seen rather in the inability of a boy to pull himself up to his chest in the gymnasium without a good deal of special work at that sort of exercise. Now, a boy may play cricket and football all his life and be unable to do that. (*b*) Drill, implying marching of various kinds, quick, slow, double and fancy exercices, high stepping and so on, free gymnastics, with or without dumb-bells. Those give precision of movement. They certainly develop the muscles of the chest, back and stomach; the last being very necessary, perhaps at that age more necessary than any. I do not mean internal economy, but simply to give strength and uprightness of deportment, whereas the applied gymnastics on the apparatus strengthens the arms, enabling a boy to pull himself up and to support himself by his arms if he falls, teaches him to climb, teaches him to look for foothold. Then, (*c*) Athletics would be of greater use if kept up. Athletics in such schools as ours are trained and practised for, for a few weeks only before a given day on which athletic sports are held, and in consequence one of little practical value.

Drill.

Athletics.

9023. Probably in the spring?—Well, in my case it is in the autumn, before football begins; but it is generally in the spring or early in the summer term. It all has to be begun *de novo* every year. Even for boys who have practised one year, they have done nothing of the sort in the interval, and they are not in training, and I do not think athletics like this very much good; they are really rather looked upon as a stop-gap between certain games, football and cricket, filling up a difficult time in the year in the employment of the boys, rather than as an exercise in physical training. Another point that should be noticed, I think, is, that a boy may be able to run very well without any training at all; I have one in my school at this moment, rather an overgrown, lanky boy, who is a remarkable runner at 200 yards; but he is a miserable weedy boy in every other way. I suppose it is something in the set of the hips. Then paper chases I do not believe in a bit for little boys. They are much too trying for the heart and wind, and unless they were begun in the most methodical way—very short distances to begin with—I have always found them much too exhausting, except for just the very robust ones. Runs come practically under the same head. (*d*) 'Handicrafts (for physical 'training reduced to carpentry)'; that is to say, there is very little opportunity for a boy in preparatory schools to have any other kind of handicraft which is any good as eye training; he may do a little fret-work, but it does not help him. Of course, it develops the sense of measurement, accuracy of measurement, and strength of fore-arm and wrist in using the heavier tools effectively, and I think that it also teaches resourcefulness. That is a minor point which is of importance in after life. Then I go on to voice training, of which I can hardly speak. I am not sufficiently experienced in it to speak from anything of my own. They say that the training of the voice does develop the lungs, the chest and the throat, and it obviously must do so if properly applied; but it is not made use of in my own school, nor, I think, in the majority of such schools; that is to say, we have a certain amount of singing practice, and so on, but the boys are not taught to use their voices in a scientific way, and I think they very often do themselves more harm than good. If they were used, and they are in some schools, and that is why I have included them, they certainly would be a factor in physical development. Then you ask me how far these opportunities are taken advantage of? Well, they are very much more taken advantage of by some boys, boys who are naturally keen, than by others; some boys, of course, have a bent for games; others possibly like the gymnasium better, and will benefit more by the methodical instruction in a gymnasium. I have said under reasons for success or failure:—

Reas... succe... failu... game...

(*a*) 'Games are successful on the whole, except in the 'case of the quite unathletic. These often hate 'them, and are quite uncoachable. They can 'then only be attacked by drill and gymnastics; 'but cannot do without the moral effect of games.'

There are certain boys, perhaps one per cent., perhaps a little more, one or two per cent., who seem to take no interest in games whatever, and, of course, they lose all the advantages whether physical or otherwise. But I do not consider they can do without them.

9024. On account of the moral effect?—Yes; they must learn to work with others, but they get no good out of games that I can see at all. You may make them run, you may make them play football, you may make them do this, that, and the other, but they do not like it, and they do not develop under it.

Drill ... gymn...

9025. Then (*b*)?—Drill and gymnastics often fail of their object: (1) From the natural dislike for precision felt by most small boys; (2) because generally taken out of play hours; (3) from indifference arising from absence of stimulus and apparent absence of result. Such boys as I have been speaking of *can* be developed by drill and gymnastics, and under compulsory exercises they come on all right, but drill and gymnastics often fail. Little boys do not like precision of movement; they naturally rebel against it, just as they do against a lesson in grammar. It is just the same sort of objection, I think, so they do not work hard at it unless they have got a sergeant whom they like. If they have got a popular sergeant, or a sergeant who takes them the right way, he will get a great deal more out of them; but the ordinary martinet sergeant, the ordinary recruit sergeant does not get much out of them. He must know boys. This is a great difficulty, that gymnastics must necessarily at present be taken out of play hours, at least it seems to me necessary. The pressure on us of intellectual work demands so large a part of our day that you must take this physical exercise, physical training out of play hours. As I have said lower down, it does not tell either in examinations or in school contests. It is not what you might call a paying subject, and we could not, I do not think, sacrifice the

In pla... reason

mental work, the intellectual work to it as things are at present. I admit that is a weakness, but I think it is a fact. Lastly, from indifference, arising from absence of stimulus and apparent absence of result. The absence of stimulus is covered by what I have said of its not telling in examinations or in school contests. Absence of result: a small boy is very unconscious of where he gets his strength from, unless he sees it tested in competition with others, and they are very apt to think that a boy is naturally a gymnast or an athlete; that is to say, they do not go into cause and effect; the majority of them do not care for drill or gymnastics, and so they do not work as hard as they might to improve themselves.

The necessity of a uniform system.—'In order to 'secure the physical training of all, the drill and gym- 'nastics should be organised with definite standards 'and exercises, with terminal half-yearly or yearly in- 'spection. *N.B.*—It is not desirable to harden the 'muscles of boys under fourteen by severe exercises; 'but they should be taught to use them in all ordinary 'emergencies, and to gain for them the necessary firm- 'ness for this purpose. Under present conditions it 'is difficult to take the time from that given to mental 'work, and to take it from games would inevitably 'make it unpopular. It must therefore be given in 'very small doses daily. If it is to be universal and 'compulsory, it must be State-inspected, and I think 'State-aided. Can the State interfere in one depart- 'ment and not in all, *e.g.*, work, sanitary conditions, 'etc.? This is a dilemma.' That is simply a pious opinion on the whole subject. I do not myself see how we are going to get any real practical result out of physical training in our schools unless some very strong pressure is brought on us from outside to methodise and arrange our work in that direction.

9026. At present I suppose it rests entirely with you?—Entirely. I might neglect it entirely if I liked. I do not suppose anybody would say anything to me about it. It must be taken in very small quantities, partly because we cannot give much time to it from the school work, and if we take it out of games we should make it unpopular and defeat our own object; not that one attaches, educationally speaking, great importance to whether the boys would like it or not, because I think they would get to like it; but at first it would be very unpopular, and that would defeat its own object. But I do not see how it is to be universal and compulsory unless it is a State matter. The State has always left us alone; at present in every way we have the advantage and many of the disadvantages of a purely private venture system. We ought first probably to be brought into line with the public schools on the subject, just as we ought in other ways. We are the preparatory departments, and it is largely a matter of secondary education; really it comes under a very much larger heading than I feel myself competent to deal with, but I think it must be organised if it is to be of any real good.

Improvement and development of present system.—'If to remain voluntary, might not inspection be offered 'to a circle of schools in each district? The boys to 'wear some simple badge or equipment. Inspection to 'be followed by a written report, criticising freely, and 'commending where possible, the squads of individual 'schools. This would, I think, foster a school spirit, 'which at present is absent, since drill tells neither 'in examinations nor in inter-school contests.' By inspection I mean a Government inspection might be offered to a circle of schools in each district. You might take the schools in my own county, Hampshire, or in a smaller district, schools within so many miles' radius of a town, and I should like a district to be larger rather than smaller if it were done, so that competition might be greater; I was thinking when I wrote this down of the organization of the Church Lads' Brigade, which I believe does work on a small red book of its own, and has just what I am thinking might be applied to such schools as ours. I think that possibly the public inspection, the public criticism and commendation where possible would foster a school spirit in the matter of drill as apart from games, and perhaps supply the necessary stimulus to training of that character, the training which is at present absent.

9027. But you intend that competition to be with similar schools, or with all schools in the district?—I think it must be all schools.

9028. Of the same degree?—I was going to say of the same age, or within certain ages; that is all.

9029. Only a School Board School and a National School are very much on the same footing?—In respect of ages, and the Grammar Schools and Tradesmen's Schools also; I do not see why we should not be in competition with them at all; in fact, it would do us good, it would stir us up.

Mental study and physical training.

The relation between mental study and physical training.—'Physical training is not relaxation. The 'best mental work cannot be done if the body is tired. 'Great care therefore is needed in the adjustment of 'requirements to the powers of the boys.' Here there are difficulties again, you see. Physical training is not relaxation. The attention required for any long period of drill certainly takes it out of the relaxation category.

9030. But turn it round and say a short period of drill; how would that have an effect?—I think it would do so if we could do twenty minutes or half an hour daily.

9031. As I say, turn this thing round. You say the best mental work cannot be done when the body is tired, and so the best physical work cannot be done when the brain is tired. Would you allow that or would you not?—I expect so.

9032. You have already said that you do not think that physical training is relaxation?—It is not.

9033. Not in your opinion?—No; that is for the sake of argument.

9034. We want to get your opinion?—Undoubtedly, I do not put it the other way to myself, but I should think it probably would be on all fours. That is, if you tire a boy out, and overwork him, I do not think he would come to his drill keen. I do not think you would get the best out of him except by a new pressure.

Physical exercises: relative values.

9035. The relative values of different kinds of physical exercises.—'This can only be estimated very roughly. 'I should put them somewhat as follows:—Games, 50 'per cent.; drill, 20 per cent.; gymnastics, 20 per cent.; 'athletics, 50 per cent.; handicrafts and voice-training, '5 per cent.; running, except under some such control 'as suggested above, is worthless if not harmful. Walk- 'ing, as a factor in development, is worthless as at 'present practised at school.' Athletics bring so many things into play, and also they induce the suppleness which would perhaps counteract any tendency to the stiffening of the muscles which drill and gymnastics certainly give if taken in excess. What I say in regard to walking refers to walking two and two, or going for long walks in the country.

9036. How do you walk your boys?—When they go for a walk, which is only occasionally, they just go as they like.

9037. They straggle about all over the road?—Oh, yes.

9038. When they go to church?—No; I am afraid they straggle about all over the road; they do not go two and two. I remember one did oneself. I do not think it makes church more popular.

9039. *By Sir Henry Craik.*—Your school, of course, is entirely for the better class scholars?—Yes.

9040. The children of well-to-do parents?—Yes.

9041. They come from homes where their health has been carefully attended to all through, and where probably, hereditarily, they have had some attention to athletics?—That is certainly true up to a certain point, but I am inclined to think that too much attention has been paid to their health at home, and that many of them are softened and unfitted for school life by the time they come to us.

9042. Have you had any experience of the ordinary child in the State-aided school?—In connection with

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our own National School and Church Lads' Brigade which we run, yes.

9043. How have they compared?—I think they are hardier; I think they are better developed than ours.

Higher-class and State-aided scholars: comparison.

9044. Is that so in your experience?—I think it is so, yes; I have been running a gymnasium class with the Church Lads' Brigade this last winter in our school gymnasium, boys of about—they would not average a year older than my oldest boys, but the difference physically was a great deal more than that.

9045. These are country boys?—Yes, merely country boys. In six months of gymnastics they came on as much as my fellows did in two or three years.

9046. That is very startling; that must have been a well-to-do country district, I suppose, where all the children were well fed?—Yes, I think it is; I do not think there is very much poverty; it is a typical country village in the south of England.

9047. And in alertness of action and quickness?—Yes, very good.

9048. They compare rather favourably with your own boys?—Yes, I think they do. I know that the sergeant who took them was not at the time taking ours, but he has done so since, and he has made that criticism that they come on very much faster than our fellows. Now, I think that was partly because it was a real treat to those boys to come and work in a properly-appointed gymnasium; they never had that chance before, and our fellows had had everything provided for them from their cradles, and looked upon it rather as a bore.

9049. And have you taught them together in games?—Well, I have not tried that this year, but they have not had the same training in games. They can hit harder, and all that sort of thing; but they generally get beaten at cricket by boys younger than themselves.

9050. At cricket?—At cricket, yes.

9051. And at football?—At football I think they are rather better, but then they are a little older, and weight helps.

9052. The general upshot of your experience then, is that you would apply generally the views that you speak of in regard to your own boys to the ordinary scholars in our State-aided schools?—Yes, I think so.

Encouragement of games *plus* compulsory amount of exercise.

9053. A certain amount of encouragement to games, and where games failed, a certain compulsory amount of exercise ought to be insisted upon?—Yes, undoubtedly, in my opinion. I have had two boys in my employment this year, one of whom was a member of the Church Lads' Brigade—had been so for this past year—and the other not, and the difference between them in movement, in smartness, was noticeable to everybody, and I do not think there is any other reason why it should have been so; they were equally healthy boys.

Military drill: very advantageous.

9054. With regard to the effect that the military drill has upon the two classes of boys, of course these boys whom you have to deal with are accustomed to the ordinary culture of refined life, but you think that military drill has even for them been a great advantage?—I think so; yes.

9055. Then, in the case of boys in our State-aided schools who have not had these advantages, they would be still more desirable?—Yes, I think so, in every way physically.

9056. In manners?—In manners, undoubtedly; an enormous advantage.

9057. And a sense of responsibility and regard for one another?—Yes, and readiness to act under direction.

Games and drill.

9058. *By Sir Thomas Coats.*—I notice you say in the fourth paragraph: 'Games are successful on the whole, 'except in the case of the quite unathletic. These 'often hate them, and are quite uncoachable. They 'can then only be attacked by drill and gymnastics; 'but cannot do without the moral effect of games.' Is it those who do not take part in games that are relegated to military drill? Are those who are unfitted for games the boys who get most of the military drill, or do those who take part in the games get the same quantity of drill?—In my own school, and I think in most schools of the same character, there is no difference made at all. I am sometimes tempted to give the quite unathletic more drill, but I have never done it.

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9059. My reason for asking is, that I know that at Eton drill does not take the high position in school that games do?—No.

9060. You cannot get your house colours if you are ever so good a shot or ever so good at drill?—Quite so.

9061. I wondered whether that had the effect in driving those who are less good at games into the volunteers or into the cadet corps?—It did do so, but I do not know whether it does so much now. Of course we do not have a volunteer corps of boys of the age of which I am thinking, boys up to fourteen years of age. There is no such thing. I believe it would be a very good thing if time could be found for it, but I do not know where the time is to come from.

9062. You do not get the best, the most athletic men in the volunteers, either at, say, Eton or at Oxford?—No, but might they not be made more athletic or, at anyrate, more self-reliant in emergencies, which is, I take it, what is wanted, by more compulsory drill and gymnastics? The probability is that the unathletic boy will not care for his drill either, and then he goes through his school life without getting the benefits of either the games or the drill.

9063. My point was rather that you did not get hold of the best boys, say at Oxford in the volunteers?—No, I do not think you do.

Volunteer

9064. Is there no means by which you could make drilling more popular, so as to get the best boys?—I think a good deal is being done in the public schools now by means of field days and other inducements to the boys to join the volunteer corps. There is no doubt that the volunteer corps are far more popular, and have a much greater number of members now, than they had twenty years ago. I think there is no doubt about that in the English public schools.

9065. *By Sir Henry Craik.*—It is compulsory at Eton, the fifth form now?—Is it?

Games a supervisi

9066. *By Mr Alston.*—You use the word 'supervised,' as applied to games; do you mean the supervision of the games?—I mean that boys are generally playing with masters, and that generally means trained athletes themselves are playing with the boys, and showing them how to play properly.

9067. We have had witnesses who advocated strongly that there should be no supervision in the games; that they should be organized and started, but that it was the enjoyment of the boy having the games in his own hand, doing what he liked?—What aged boy would that be?

9068. The boys in the Board Schools.—Our experience is that the boys—unless they mislead us—prefer us to play; that games go very much better when we play with them.

9069. They do not feel under restraint?—No, I think not; I think they prefer it. I do not mean to say entirely and always, but I am sure the games would not go well if we never played.

9070. And you get better results from the games in consequence of that supervision?—Oh, yes; undoubtedly.

Physical not attra because t in play h

9071. *By the Hon. Thomas Cochrane.*—I only wanted to know whether the physical drill is made attractive to the boys?—Yes, I think so, as far as any combined exact movement can be attractive to the small boys. They do not like working in time—to the word of command, at anyrate at first. Of course they all do these exercises to the word of command, and I think they are made as attractive as possible. The exercises themselves are very often amusing, and they are encouraged to practise them themselves. When they go to bed they very often do some of these exercises on the floor on their own account.

9072. I rather gathered that they did not appear to take interest, and I wondered why; they are generally rather popular.—The reasons I have given are under '4 (*b*).'

9073. 'Generally taken out of play hours'; it is rather hard on them?—Yes, I think it is, and so is the amount of work required of them. We are working at high pressure, very high pressure.

9074. You could not take off any of the school hours, and let them have their physical exercise?—I would like to; I do not see how it is to be done at present; it is one of the greatest difficulties which is felt by preparatory schoolmasters at this moment.

9075. Do you think if they knocked off for ten minutes, and had physical exercises, that would interfere with, or would it improve, their work?—I sometimes do it in a long school, between two hours, and I think it brightens them up.

9076. I see you say 'Physical training is not relaxation'?—It is a change.

9077. You approve of a change from one kind of work to another?—In the same way that you will not do the same kind of mental work two hours running. With small boys you would divide your day more or less into periods of three-quarters of an hour, and the change from the one to the other is a great relief.

9078. I wanted to get your opinion on that?—Inasmuch as it is change, it is relaxation; I would modify that to that extent. But still it is hard work—taking the day through, it is tiring. That is what I mean really by saying it is not relaxation.

9079. *By Mr Fergusson.*—How much time do you devote in the course of the day to physical training of any sort?—Including games, and all these things?

9080. No, apart from games; physical exercise of any sort, or drill?—We do not devote a period of every day, by any means; two hours a week would be the outside, and very frequently less.

9081. That comes out of the play hours?—That means one of the afternoons, at least.

9082. How many hours of lessons do the boys have?—About thirty-two to thirty-three hours a week.

9083. Say six hours a day?—Five and a half hours, on an average.

9084. You would not like to reduce that to five, and take half an hour for physical exercise every day?—I should very much, if I were sure I would get the same results in public examinations. *Rev. C. T. Wickham.* 18 June '02.

9085. But are you quite sure you will not? We have had witnesses who have told us from practical experience that they found it paid to do it, just because the physical exercise was good for the health of the boys, and brightened them up and made them alert, and was a relief to their brain; for that very reason they got better work. You cannot say it is so; you have never tried?—I have, to this extent—that at one time we were doing an average of over six hours a day, and we are certainly doing much better work with five and a half hours' work than we did with six, but I thought I had cut it down as low as I could do.

9086. As to physical training not being relaxation, are you speaking of drill or what sort of physical training?—I was speaking of training to the word of command.

9087. Free exercises; things of that sort?—Free exercises, yes; they are a change, and it may be relief, but in taking the day through, you would find that if you did much of them the boys would be more tired at the end of the day.

9088. I don't suggest much?—I mean they would be more tired after a period of drill than they would be after an equal period of games; that is my experience.

9089. Your physical training—your drill part of it—is all done by a drill sergeant?—Yes. Instructor.

9090. You do not think it would be advantageous to do that yourself?—Probably very advantageous to myself.

9091. You said the boys did not care for the drill sergeant; they like you to play their games with them; do you not think they would like it better, and you would have a better hold of them, if you and your masters took the physical training?—Well, I cannot really say. As a rule, we do not get masters who are sufficiently trained gymnasts to be able to set the exercises properly. I certainly could not do it myself, even if I could do the free gymnastics.

9092. A great many of these drill sergeants have not much hold over the boys?—There is always some master present.

The witness withdrew.

Sir WILLIAM ARROL, M.P., examined. *Sir Wm. Arrol, M.P.*

9093. *By the Chairman.*—You are much interested in physical training?—Well, I must confess I am.

9094. I mean you are interested in the subject of our reference?—I have taken an interest in it for the last thirty years, more or less, more from a practical point of view than educationally.

9095. Quite so; it has to come in when you catch children young; you have to do what you can with them educationally?—Yes.

9096. You have read the reference, have you not?—No, I do not think I have.

9097. Well, the first part of it is to enquire into the opportunities of physical training now available. Are you a member of a School Board?—No, I am not a member of any School Board.

9098. I rather want to get at what your actual knowledge is on what goes on at the present time. Are you acquainted with the amount of physical training that is being given in the Board Schools, say, in the North?—No, I am not personally acquainted; I have never taken any part in any School Board or any educational matters at all connected with the education of children. My experience in physical training is more in the practical way of strengthening children, and for young men or young people going to work.

9099. That comes after. If you will allow me to ask, you have no information to give us as to what exists at the present time in the schools?—No.

9100. But you have ideas in your head as to what ought to be done to children in Scotland, both under the age of fourteen and between the age of fourteen and eighteen?—Yes.

9101. And both boys and girls?—I cannot say anything for the girls.

9102 You cannot?—No; more for boys.

9103. Will you tell us, to start with, what you think ought to be done, in a sensible-like manner, to children of school age—that is to say, under fourteen—in the way of physical exercise?—I will tell my reason first why I take an interest in that. At the commencement of the ten years' system in the army, I happened to be foreman at a public work in Glasgow. At that time there were a great many of these men came and sought employment as labourers. My experience in that—from that time till now, the present day, thirty-five years ago—is that a man who has been trained as a soldier, and drilled to discipline and obedience, is a far superior man to a man who has never been in the army, and I look upon it that children trained up in the same way are far superior; but not only that, it is healthier, more intelligent, and more important physically when you come to get them to do anything. For instance, message boys, if they have been in a Boys' Brigade they are far smarter, and you will train them up much quicker after that than if they had never been in it at all; it is quite a different thing altogether. Military training: advantages.

9104. The Boys' Brigade goes a little bit beyond what I am presently talking about. I want first of all to ask your opinion of the children under fourteen, and, secondly, over that age?—Well, I think whenever they are over fourteen they should be sent to work as soon as they can, because after that they get so obstreperous. Unless you are going to give them an education suited for a profession, I think they should be at a public Boys after fourteen.

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work. I am speaking for working-class children; I do not take in those who are better, or whose fathers can afford to keep them at school after fourteen; but I think when they come to fourteen, the sooner they are at work the better. You will not have to drill them at a school after that, and practically they learn nothing; they learn nonsense after that; they should be at work as soon as possible after fourteen.

Suggestions.

9105. But you are acquainted, are you not, with a large lounging class, in Scotland especially?—Yes.

Loafers.

9106. Who do not do work?—And I think the Government should take power to drill them up, and, if they did not find employment, make them soldiers or something of that kind; that would make them far more useful members of society. I think the educational authority should have power, if they are not working, to do something with them, or the Government should have power to do something with them to keep them in employment. During the last thirty-five years I have had great numbers of them—more particularly in connection with some of the large contracts that I have had through my hands—and I have seen the foreign element, that is, Germans and all nationalities, come over to our works in connection with their educational system. I hold—and during all my experience I have never seen anything to cause me to depart from it—that the German system is very different. There is a great outcry that there is a want of technical education. Now my experience is the opposite way. It think the superiority of the German education is due to the military system; that is drilled and instilled into them while they are young. They never forget it, and it is why the Germans have a superiority over our people in their perseverance and in their methodical system of going about what they have to do. It is not that they are any better men, in any shape or form, but they stick to the thing, and persevere straight through it until they gain the ends which they aim at. For instance, there are dozens of them coming over here, for the purpose of learning our language. They will get employment in some office or some public work till they manage that. Then they go abroad to some of our colonies, and generally they settle down there, and, as a rule, they succeed by their perseverance and the methodical way in which they go about their work. I hold that is instilled into them by the very communication of their military system, which gives them that advantage over our people here.

9107. You will not deny, I suppose, that Scotch people have been known to get on very well by perseverance?—Well, it is only by perseverance that they get on; that is my experience of them. Now, as to the product you are sending out from your Board Schools; I do not think we have value for the money that is spent.

Board School education.

9108. That is in the Board School?—I do not say the Board Schools, but in our schools generally. The Board Schools, no doubt, are very well managed; we have very fine schools in Scotland. I do not suppose there are any better in the world than we have got in Glasgow, so far as I know; but, at the same time, I think they could be greatly improved. We attempt to teach the children far too much, instead of teaching them some things well that would be useful to them in after life. That is what I think is wanting.

Militarism.

9109. Are you acquainted at all with an outcry against militarism?—No, I am rather in favour of it.

9110. Are you acquainted with any outcry?—I have heard some talk about it, but I do not think there is anything in it; it is more a political thing than anything else; it is more politics, imagining our country is going to turn a military country and going for soldiering. I should like to see a few hundred thousand going in for soldiering; it would do them good; and I think if our Government enacted that it would do a very great deal of good to a class of men, who would have to enlist when they are young men, and pass their time through the army. Something should be provided for them to enable them to take up an employment, and not allow them to drift and drop into a common class of labourer. I think the man who has been in the army is a superior man to a man who has never been in it, and they are worth a shilling or two shillings a week more as ordinary labourers for the intelligence and manner in which they go about their work.

Sir Arrol
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9111. Have you had much experience of old soldiers, what they call old soldiers nowadays; that is men who have been three years or seven years in the army?—Men about thirty or thirty-five years of age, going up to that. I have always made it a rule that I never send away an old soldier when he applies to me for a job; I always give him a preference. I used to have a great number of them when I first took it up. I have had dozens of them, because I take them on in preference to any other class, and the reason for that was I required a great deal of unskilled labour. When I was foreman of the works I laid out my work in a particular way, and by spending perhaps a day with these men I could teach them to do what I wanted, and I could get these men to carry on the work practically as if I were there instructing them all the time, and as well as a tradesman. I had a great many piers to build, such as Brighton; all the piers nearly round the coast; and I found these men could carry out my work, and do it carefully. I spent some time with them teaching them to work, but afterwards they could work out the thing without troubling me, except now and again during the day.

9112. Were these soldiers at large or soldiers of English, Scotch, or Irish regiments?—They were soldiers who came to the gate and told me they wanted employment, without any other recommendation at all.

9113. And nothing to do with their previous rank?—No, nothing at all; I think they were all private soldiers. I have had a good number of sergeants and other officers, and those who have been up a little. They make capital timekeepers and all that class, and at the present moment we employ them still as timekeepers, and gatekeepers, and all that class of work.

9114. Have you ever heard anybody abuse soldiers in private life, saying that they were not suited to civilian labour?—No; I do not think there is anything of that. I always found they were very good. Of course, there are all kinds of them. There are some bad characters before they go to be soldiers, and they do not often forget it while they are there; but, on the whole, I have never had any trouble with them.

9115. We have had evidence before us that a soldier was so much looked after while in the army that he was lost, as it were, when he came to civilian life, and did not know how to set about anything?—I do not think it. I think if they get fairplay when they come to civilian life, and anybody takes an interest in them, they are better than any other class of the community that I know of; that is to say, if you take the same stamp of man of the same age loafing about as labourers, the soldier, I think, is the superior man.

9116. *By Mr Fergusson.*—You approve of the German military system of training?—Well, I do not know any details of the system. I just take it, the military system and discipline. I do not care who they are, whether they are children, boys or girls, it instils obedience into them.

9117. But it is carried on to the age of twenty-five?—I do not know what age it is carried on to.

9118. It is carried on to over twenty; but how do you reconcile that with advising that every boy should go to work whenever he is fourteen?—I do not see how their fathers and mothers can keep them very well after that.

Militar trainin boys u fourtee

9119. How can you give that military training when the boys have to go to work when they are fourteen?—I do not see why you should not give it before fourteen; marching.

9120. It is a very important time in a boy's life, fourteen to eighteen?—I think they should be learning their business that they are going to make their living by.

After fo appoint time.

9121. If it is of so much importance, do you not think it would be advisable to carry on this training after

the age of fourteen?—As long as they were at school. I would give them even more of it after fourteen.

9124. That is when they are apprentices, and you would carry on some training?—Apprentices; you cannot carry on a public work.

9125. I suppose they have some spare time in the evening?—In the evening.

9126. Could you not give a couple of hours a week?—Oh, yes.

9127. Would they not have time to do that?—Plenty.

9128. Would it be good for them?—Nothing better for boys between fourteen and eighteen to go into the school every night.

9129. Some employers insist on their apprentices taking up continuation classes?—Well, most employers advise all boys to go to the evening schools; they will learn more in the night school in a session or two sessions than in the day.

9130. One of the subjects taught in the night school might be physical drill?—They could take one hour or half an hour two nights a week.

9131. They have time to do that?—Plenty.

9132. Would you approve of anything of that sort being made compulsory?—I think it would do them good, you will not get them to do it by coaxing; you must make it somewhat compulsory.

9133. You think the apprentice boys could find time?—Oh, plenty of time. They all stop at five o'clock, there is plenty of time after that for a boy working in large public works.

9134. You think they would turn out better men and more useful tradesmen?—There is no doubt about that, if they are trained up with discipline and obedience to work together methodically in whatever they may have to do in after life. I think the educational system should not aim at giving them a great many subjects that are of no use to them, but should aim at training them up in the likelihood of the employment that they would find afterwards for their living.

9135. That is to say, fewer subjects and more thoroughly taught?—Give them plenty of mathematics and drawing of an educational kind in the lines that they are likely to follow in after life. It will be useful to them in almost any branch of their business. My experience of these young men who come through a great many of the training colleges. I have had a good many of them. Some of them from America, some from Germany, and some from our own schools—twenty-three or twenty-four years of age. And I find when they come to that age they know far too much, you cannot teach them any more. Even with all the work they have done as students, and after spending the time to twenty-six years of age, when they come into our place they are practically of little use, and not nearly so good as an ordinary boy coming in as he does and never having had any technical training at all, but beginning at the bottom and working up.

9136. Then you are no great believer in what is called technical education?—No doubt we should have a good technical school in each large town, but there are methods of technical education, and I think what should be aimed at is giving them what is necessary to assist them in after life. They never attempt to teach them to work. I remember a gentleman in Glasgow—he was a large employer of labour, and had a good many hundreds of engineers himself—thought to give his son a first-class education, and he sent him to America, and he spent four years in American colleges, he passed his time through these colleges, and went all through the various subjects; so many days to make him a blacksmith, so many days to make him a moulder, so many days to make him a pattern-maker, and when they were all tabulated up, it was found that they had taken six weeks to learn him the whole of a blacksmith's business from end to end. Dear me, he could not learn to hold the tongs in six weeks, that is a fact. Well, this young man when he came back after four years spent in America was twenty-three years of age. His father came to me to get him into a good shop where he would get all-round work the last year of five years' apprenticeship. He had been four years in the schools. A friend of mine took him into the shop, a good practical engineering shop. I told my friend to take an interest in him. He was a smart young able fellow. There was no nonsense about him, and he was eager to learn, but after all he was very little better than any other lad coming in from fourteen to sixteen years of age, and starting his apprenticeship with the education got in one of our Board Schools, because he really could not work much in any way as a specialist. Now I had another one come from the college about two years ago, and he came to us when he was over twenty years of age. He had got the silver medal, and he came to get employment because, owing to a change in his father's circumstances, he could not support him, and he came to see if I could give him a job. He was a nice-looking lad, and I was very sorry for him. I said, 'I shall be very 'pleased to do what I can for him. If there is anything 'in the inside of our work that you can do—I do not 'care what it is—I will give you a job at it.' There was not a single thing that I could take him in and give him employment at the inside of our work. That was the position. He was a nice-looking young lad over twenty years of age. I advised him to go back and tell his friends what they ought to do for him, perhaps to get him for three years in an engineering work. I did not care where. They put him into one of the engineering shops nearest his home, and perhaps after serving three years he might be able to do something for himself. By that he could make a ladder to help him on afterwards. He came back about a fortnight after that, and told me that his friends had advised him to do what I said, and he wanted to see if I could do anything for him. I said I would be very glad to take him into my own work. I took him into my own work. He is working there yet, serving his three years. I told him at the same time that if he would push himself on I would not tie him down to any apprenticeship, but just pay him for anything that he could work at. I have had the young man working for me for nearly two years, and he is doing very well; but so many of them, when they come to that position, drop down and never get any further. That is my experience.

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9137. *By Mr Alston.*—I have the same difficulty as Mr Fergusson in reconciling your statement about the good quality of the soldier, and the necessity of the boy going to the work he has to earn his bread at before he can be a soldier. Were these soldiers that you employed in preference mere labourers?—Mere labourers; they had never been at a trade.

Soldiers and civilian employment.

9138. Then it would be a disadvantage if you made service compulsory that you would only turn out labourers, and when they came back to civil life they would not be able to do anything?—A soldier, if he has any push about him at all, if he has not sufficient education before he is a soldier, can make use of the time during which he is a soldier to enable him to earn his living afterwards. The Government makes a gross mistake. I have spoken to two or three about that; they do not find old soldiers employment in their own arsenals and dockyards, as they ought to do, for the great mass of these people. I think they are entitled, after they have served their country five or seven years, to find the arsenals and dockyards open for these men to come in; I think the Government are entitled to do that for the men who have served them.

9139. May not the majority remain just simply labourers?—No, they have so many machines of all kinds and descriptions. I could learn a good soldier to work a machine in the inside of three days, or, at the most, I may say a week, to enable him to earn from 25s. to 30s. a week.

9140. And what does the Trade Unions say to that?—I do not care a straw for the Trade Unions. If you have to work things to suit Trade Unions, then we must stop our business.

9141. Because the giving of a shilling or two shillings extra to the soldier labourer, if it had been in a Trade Union shop, they would probably have stopped the other men. The other men would probably stop if

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there were a Labourers' Union, for instance, in connection with your work?—There is no Labourers' Union in connection with our works, and as to unskilled labourers — organised Labourers' Unions generally—there is nothing in them, and an independent employer takes no notice of them.

9142. Might it not be an advantage to get these good soldier-like qualities that you admire so much by means of the Board Schools and in continuation classes, bringing out all the qualities that a soldier gets in the army?—If you expect to get them all brought out in a school, you will find your mistake.

Continuation Classes.

9143. But in continuation classes could you not get a great deal of physical training, and military training, before the boy is committed entirely to work?—I think you should give them as much as you possibly can.

9144. Because I do not see how you are to turn that boy on to work at fourteen, and, at the same time, get these qualities that you desiderate?—That is the difficulty. Whenever a boy comes to be eleven or twelve years old, you cannot do much with him in the way of education, if he is a wild, obstreperous boy.

9145. The thing is to tempt him to stick at it a little after school age?—I think you should give them as much physical training as you can while they are at school. I do not care what age; give it them early.

9146. Give it at the continuation classes?—Yes; continue as long as they are at the school.

9147. *By the Hon. Thomas Cochrane.*—From your great experience of these lads in your works, would it do them any harm to make them come to continuation classes, say for an hour three nights a week, and learning physical training?—No; it would do them a great deal of good.

9148. It would not interfere with their work to make them go?—Not at all; they generally get into mischief at night, as they have too much time.

9149. You would rather see them at physical training than lounging at street corners?—Certainly.

Apprentices: evening classes.

9150. *By Sir Thomas Coats.*—You employ a good many apprentices in your own works?—Yes, we keep a great number of them.

9151. Do you make it a condition that they attend night classes or technical schools at night?—I advise all I come across to go to the technical school every night they possibly can get; I get them all to go. I get the foreman to take an interest, and see that they do go.

9152. Practically the whole of them go?—The whole of them go, as a rule, in the Glasgow schools.

9153. I suppose in these evening schools they are learning theoretically what they are working at practically during the day?—Well, they could do that in the technical schools; but mathematics and drawing are good for almost every kind of subject that they follow in after life. Suppose it is a joiner, or any kind of trade, you cannot give them too much of that in the night school, and there is no place better than the night school for getting boys to understand the real responsibility of their lives. Whenever they are learning to work through the day, it is a change of employment to go into school at night. If you try and put them into day schools they think they are entitled to play themselves all the day.

9154. Do they go every night?—They used to long ago; they used to go five nights a week, but now they only go three—three or four, I am not quite sure.

9155. Supposing they are going three nights a week, do you think if they had an opportunity of getting gymnastics and physical drill that they would go the other two nights?—Well, I think they would be quite willing to go one, anyway, even if they were getting one good night of physical training in a week—an hour one night, or give them half an hour two nights.

9156. You think they would like that; they would take to it?—Yes, I think they would, if there was a good man, a good sergeant, a man who has been in the army, to drill them up properly. I think the boys would like it, and it would do them a great deal of good. It straightens them up, and makes them better for their work; there is nothing better either for boys or girls.

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9157. *By Mr Shaw Stewart.*—You have given us evidence in favour of night schools — continuation schools—both for mental work and physical training. We have had a great deal of evidence in favour of compulsory attendance at continuation schools. Now I would like to ask you as a public man—do you think it would be possible to enforce compulsory attendance at continuation schools for all boys between fourteen and eighteen in Scotland?—Well, I do not know if you could make it compulsory, but I think if you were to make it a recommendation, I think you might get the co-operation of the employers of labour where the boys are employed, and they would insist on the boys going to school at night. I would hardly put it down as a hard-and-fast line, but it would be to the children's interest, as well as to the employers' interest, that these children should go to school at night. You might get the School Board or the employers to enforce attendance at the school at night.

9158. You think that a very strong recommendation from this Commission as to the benefis of attendance at continuation schools might stimulate employers of labour to encourage their boys to go to these schools?—I do not think any right-minded employers of labour would not be willing to co-operate and work along with them.

9159. That would only affect the respectable boys, who are at steady work?—Yes.

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9160. We have to consider also the boys who are more or less learning to become loafers, who are loafers, in many cases?—Well, I would be inclined to put them under the police; if there were any means of enforcing it, I certainly would do it.

9161. Well, we have had a good deal of evidence to the effect that there is a number of boys who are not under any special control, who are not bad in themselves, and that, if they were got hold of and handled rightly, they could be made something of?—Yes, I think there could be a great deal made of them.

9162. And many witnesses say that the only way to make anything of them is to make them attend continuation schools by compulsion?—Yes, if there was any means of getting at them, I would be quite willing to apply compulsion; I think it would do them good, a great deal of good.

9163. Yes, it would do the boys good; but I am asking you, as a public man, as to whether you think the public mind would tolerate compulsion?—I am not very sure of that; they would turn round and say it was for militarism; it was for the purpose of training them as soldiers, or something of that kind. If you could mix the two together in some way that would be attractive to their parents as well as the children, I should think you might get a great many of them.

9164. Well, do you think that by providing some attraction, as displays of physical exercises and musical drill from time to time?—Drill is pleasing; you know there is no better exercise or better amusement than in being drilled.

9165. Take a town or city, do you think that if something were done in that direction by the Town Council, that would help to bring the boys out of the streets and get them into some discipline?—I do not think the Town Council could do much good. I think the School Board should have more power over that, and I think they might complain if these boys were running about wild; the compulsory officers could take note of them, and the magistrates should have some power over them. The School Board officer, in the event of a great crowd of idle boys running about certain districts, going about idle, neither working nor learning, should be able to bring them before the magistrates, and have them dealt with.

9166. What would the magistrates do?—Educate them; give them certain lessons at night, as well as drill. It is a difficult subject to take any of these things when you have no power over them.

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9167. It is a difficult subject, but we have to face it, and we would be very glad of any help you can give us in that direction?—The only thing is, you have got them in the school so long, if you can keep them up to thirteen, but you will have no control after that in the School Board.

9168. Do you not think it would be possible for the Education Department to get control of the boys after they have left school for night work?—I would have no objections to get control over them for a couple of years; to get control over them when they go to work, to insist on them going to school.

9169. Two or three nights a week?—Yes, a couple of nights a week, perhaps.

The witness withdrew.

Adjourned.

NINETEENTH DAY.

Thursday, 19th June 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

Sir THOMAS GLEN COATS, Bart.
Sir HENRY CRAIK, K.C.B.
Mr M. H. SHAW STEWART, M.P.
Mr J. C. ALSTON.

Mr R. B. PEARSON, *Secretary.*

Major J. E. B. SEELY, D.S.O., M.P., examined.

Major J. E. B. Seely, D.S.O., M.P. 19 June '02.

9170. *By the Chairman.*—May I ask, have you taken practical interest in physical training in any school or schools, or is it only the general subject that you are interested in?—Well, I have taken a practical interest in physical training in various schools in the Isle of Wight, in fact it has been taken up somewhat keenly, especially in Ryde, where my predecessor, the Lord Chief-Justice of England, also takes a great interest in it, and has done all through, as, perhaps, you know.

9171. And has it obtained in the ordinary Board School there, or in the National Schools, or what sort of schools?—Well, to some extent in all; in the Board Schools and the National Schools, and also in other schools, girls' schools and boys' schools, for people who are better off.

9172. But what you wish rather to bring before us to-day, I gather from looking at your notes, is that which is in your mind for boys?—Yes.

9173. And probably for boys certainly in the higher part of their school time, and also later on?—That is so.

9174. Would you kindly read your notes, beginning at rifle shooting?—Rifle shooting as a part of physical training.

9175. You preface that, of course, by saying that it is physical training for boys of a certain age?—For boys.

9176. Say after twelve?—Say boys after fourteen.

9177. Then that would rather lead you to continuation schools, or some after course of training?—This is in connection with some after course of training. I would say that it seems to me that all this physical training is open to many objections, and I know that many of those objections have been brought before this Commission. For instance, the system, let us say, of Sandow, or of some other man, develops muscles of a particular part of the body at the expense of other muscles, or possibly develops muscles at the expense of other parts of the human frame, and I believe that many distinguished physicians are of that opinion. Rifle shooting as a part of physical training is open to none of those objections. It develops, as I have said in my notes, sobriety, healthy habits of life, steadiness and coolness, and, what I have not stated in my notes, but I should imagine is of equal importance, it would develop a great interest in the boys themselves, whereas, I understand, that in many parts of the world where I have been the difficulty is that the children or boys get heartily sick of the physical training that they are being given. The foregoing refers to the value of rifle shooting from the moral and physical point of view. Then from the point of view of national strength—and here I would speak, I suppose, more or less as a representative of the National Service League, of which I am a member——

As source of national strength.

9178. Just follow on through your notes, and then we will ask you questions after?—From the point of view of national strength, I would say that my attention was first called to the necessity of training our boys, if we cannot train our men when they are grown up, to be able to use their weapon by an experience which I suppose has not fallen to the lot of most Englishmen. It fell to my lot to be in command in the field on active service of men who, with every other good military quality, did not know how to shoot at all, and did not pretend to be able to shoot. The reason for this was that men were urgently required at the moment, although this was a war against two small States, and they had to be sent out just as they were. Those men were irregular soldiers. A similar thing has occurred to my own knowledge with the militia, and I believe, though I cannot say for certain, with all branches of His Majesty's Forces. When men were urgently required, it was found that, whatever virtues they might have as natural soldiers, they had no knowledge whatever of rifle shooting, and if you would like to call the evidence of some officers commanding militia units whose names I could give you privately, I think you would get a very startling statement in reply. It would seem, therefore, that we are hopelessly behind every other nation, except possibly the Americans, though I understand that is not really the case. If it were part of your curriculum of physical training, if you recommend in your curriculum that people should be taught

Personal experiences.

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to shoot, we should be saved the difficulties which the nation did meet with on certain occasions in this war. Rifle shooting is the only part of military training which can be carried out in peace with complete success.

Military training in peace: rifle shooting: essentials.

Courage, common sense, confidence in the leader, skill with the weapon, are the four most essential things for the soldier in war; of these four, only the last can be taught with certainty in time of peace. I would consequently desire to draw attention to the immense military strength of a nation of marksmen, and I have given as examples the English from the time of Crecy onwards for some hundreds of years, during which a system of compulsory shooting prevailed, up to the time, I believe, of the end of the reign of Elizabeth; the Swiss, of whom, no doubt, you have had evidence from other people; and the army of the late Orange Free State, perhaps the most striking example of all. Then, secondly, presuming it is found advisable to make rifle shooting a

Possibility.

part of universal physical training in Scotland, comes the question of whether it is possible to do this; first, I have said that shooting with a reduced charge is practically as useful as shooting with a full charge, because the problems of rifle shooting in war, which would be the only ultimate object of teaching them to shoot, are two—(1) to get the back-sight, the fore-sight and the enemy in one line; and (2) to know the distance, and

Difficulty of ranges.

thus to correctly adjust the back-sight. The first can be taught quite as well at 50 yards as at 1000. That is aligning the sight with the object. The second will never be learned by shooting at fixed distances, or at any ordinary target, and in any case can be learned just as well without shooting at all. I mean to say the judging of distance can be learned quite as well without going to a range and letting off a rifle. As instancing that long ranges are not essential to accurate shooting at long range, I have noted that rifle competitions in the Orange Free State, before the late South African War, were conducted at short range, 100 and 200 yards; that is, their club shootings that were organised by their commandant, and yet their long range shooting during the war was most remarkably accurate, a fact which I think is not disputed. The range difficulty would therefore appear to be surmounted, because you can teach all that you wish to teach for the purpose of national strength on these reduced ranges. That is the theoretical part of the matter. Then, secondly, the

Practical application.

practical application of these theories in my own constituency in the Isle of Wight. I very earnestly pressed all my constituents when I came home from South Africa to consider the value of rifle shooting, and as a consequence they responded in a somewhat remarkable

Rifle clubs.

manner, rifle clubs having been founded in every district where there is not a volunteer company, volunteer officers assisting in the movement. Four of these rifle clubs are now open, and a fifth is almost completed. Then I have given a description of an open-air rifle

Open air-rifle range.

range for a reduced charge, running man, disappearing targets, etc. It is valuable, I think, to have your range in the open air, because shooting in an enclosed space somehow does not give the man or the boy the idea of the thing so well, and an open-air range is so much less expensive. These ranges that I have been instrumental in opening are from 25 yards up to 100 in length. Their cost varies. I have got the cost from

Cost.

the different people who have done the work for us. The cost in the case of the first one, which was the most expensive, was about £35; the second was £20, the third was £25, and the fourth, which is not yet completed in all details, is expected to be about £15; and the gentleman who has done most for me in this matter adds that he would be glad to undertake to make these ranges anywhere at £25, including a club shed in which to keep stores, rifles, and so forth.

Length of ranges.

9179. The ranges vary from 25 yards?—From 25 yards up to 100, and there are corresponding distances on the sighting of the rifle. You shoot with the same rifle that the man will use when he gets the opportunity of shooting at long range; the only difference is that you put into it any of the contrivances that enable you to shoot with a reduced charge in a small cartridge. Of course, you could put a reduced charge in an ordinary cartridge, but that would involve the expense of the cartridge.

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9180. *By Mr Shaw Stewart.*—Did you mention the length of the range?—Yes; the shortest range is 25 yards and the longest is 100 yards. You can also have at these short ranges what is so much more valuable than any stationary shooting, that is, disappearing targets and a running man, or whatever you may be pleased to have. I think I have given you the actual cost. Well, now comes the most important part of my evidence, or least unimportant, and that is as

Practical t of suggesti

to whether my theories—of course, I do not know whether they have been put to this practical test before—are true, whether it is worth while to train our youths at short range, since, I presume, we cannot train them at long range in this thickly-populated country. The question is as to whether the short range would teach you to shoot at the long. I anticipated that possibly I might have an opportunity of bringing this matter before some authority; in fact, the Commander-in-Chief had said through another officer that he would be interested in knowing the result if the experiment could be conducted. I, therefore, gave only such notice to the people who had charge of my small range as would enable them to arrange to get the youths away from their business. I selected those whom I knew from my own knowledge had never fired with the rifle in their lives until they began firing with a reduced charge, and had never fired with anything but a reduced charge and at short range. I chose the spring, when I hoped there would be bad weather. I took them over to Portsmouth on an ordinary shooting day by the consent of the military authorities, and they fired at all the ranges that were available. It so happened that it was a very stormy day. There were very severe storms of hail during the greater part of the practice, just what I and the people who think with me had hoped for, because the question is, is the shooting of any value under service conditions? And the result

Results.

was, I think, surprising, and here I have the registers of the shooting that they made. At 200 yards, which is the nearest military distance, the shooting was good for ordinary soldiers. Out of a possible 28 the scores were—18, 9, 20, and 17. At 400 yards, where you would think that the longer range would begin to tell, out of a possible 28 the scores were—26, 12, 18, and 18. Now comes the interesting part of the competition, which some people find it difficult to believe; fortunately I had plenty of witnesses; at 500 yards, lying down, and bearing in mind that the first shot of all these men at this range was the fifteenth shot that they had ever fired in their lives——

9181. No sighting shots?—With no instructions of any kind, and no sighting shots—no instructions of any kind previously—the scores of these lads were—21, 20, 22, and 24. It was, indeed, very remarkable. That shows conclusively how unnecessary it is, as we all used to say in South Africa, how totally unnecessary it is to have ranges of 2000 yards, with two miles kept clear behind the butts, in order to teach people to shoot. There was what we should call at sea half a gale of wind during the squalls; it was on our starboard quarter, from our right-hand rear, half a gale of wind during the squalls, and a very variable wind; at some times, at the very highest part of a squall, it was impossible to see the target, but as long as they could see the targets they went on shooting in the rain; it was quite the worst shooting day that I have ever been out in. I myself fired my usual course at the same time, and made very indifferent shooting, although I did my best. I may say that most of these lads at 500 yards made very much higher scores than I did myself. Although I am not a good shot, I have been a marksman ever since I belonged to any branch of the army.

9182. With this as your text, will you continue to give a little more direct evidence as to the value of this for boys over fourteen years of age all through the

Value fo over fourteen

country; just a little to point the value of it?—I would say that it seems to me that if you can include in your training a thing which will undoubtedly interest the boys more than any other kind of physical training that you can give them—to which, I think, everyone would agree, because the element of competition comes in—and if that thing itself is one which must increase their desire to live healthy and clean lives, because if there is one thing more than another which depends upon health, sobriety, and clean living, it is rifle shooting, and if, at the same time, by giving that instruction which will be so good for them from the moral and physical points of view, you can add very greatly to your national strength in the event of a trouble arising which would require the calling on the civilian population to fly to arms, it seems to me it would be worth while doing. I think that the experiment that I have explained to you, and the scores actually made, will prove that it is possible to add to the national strength in this way, because if they can shoot at the short range, I think this proves that they can shoot at the long one; and as to the possibility of it, I think the figures I have given, with regard to the cost, will show that a rich country like ours can very well afford to pay for these little ranges, even if the patriotism of the people, if properly appealed to, would not do it. With regard to the fact that this Commission does not propose to take into account the purely military aspects of the case, I would say that what I and my colleagues of the National Service League are looking at in this matter is the possibility, the probability, almost the certainty, that in the event of our being engaged in war with any European Power we should be obliged to call upon a large part of the civilian population; for if we had to call upon our civilian population in a war against so small a number as 80,000 men, however gallant and apt soldiers, it follows of necessity, that if we are to engage any great power, even though you say you rely on the Navy, somehow or another you must again call on the civilian population. Therefore, what we earnestly desire is, that when the civilian population is called on, its education should have comprised not only learning, religion, and the care of the human frame, but something which may save the country from disaster by the fact that, at any rate, they have the elements of military skill, namely, the knowledge of their weapon. That is what I hope, and my colleagues on the National Service League hope, will be taken into consideration by this Royal Commission, so that part of the physical training may tend to the increase of national strength.

9183. There are one or two points I should like to ask you as to the practical part of the question. I understand you recommend Morris Tube Galleries?—No. I would not recommend Morris tubes, though, of course, they are good things in their way. Adaptors are better, and I understand that other inventions have been made since then.

9184. Are you aware that the Military Authorities are very reluctant to grant anything but a covered range for short distances?—No, my lord; certainly not in the Southern district, because all the Rifle Clubs that I have referred to in my evidence have been passed by the Local Military Authority, and have subsequently been affiliated to the National Rifle Association, and registered by the General Officer commanding the district.

9185. When I tell you that this very day I was informed that even for a Morris tube range permission by the Military Authorities, that is the War Office, was refused on account of such a range not being covered, would you be inclined to disagree with that?—No; if you told me so I should know it was true; but I should say that it must have been in a very dangerous situation.

9186. So far as I could see not at all dangerous?—Then I should say without hesitation——

9187. But such actually was the case?—It was a most ill-advised action on the part of the authorities.

9188. Do you happen to know, supposing any educational establishment wishes to adopt some means of rifle shooting, whether Morris tubes or otherwise, what their plan of operations is, what the rule they have to consult is?—As I said in my evidence, this rifle shooting would be for the boys who have left the primary schools, and, therefore, I should imagine that the thing could best be done by the assistance of the Local Authorities, instead of by the Managers of the Board or Voluntary Schools; there would be a rifle range in the district, which would be run by the people of the district, and the boys should be induced to attend there on certain days, and ultimately to pass a shooting test in the same way, if you may take the concrete instance, as in the Isle of Wight. These ranges would be available for youths of that age at certain times; and the range would be put at their disposal by the people who have made the range. It seems to me you have only got to make the range at a cost of £25, and get the rifles, which, in the case of service rifles, would mean a cost of about £8 for two rifles—the means I adopted was to give the rifles to all those clubs myself—and the rest would follow of itself without difficulty. Practical suggestions.

9189. *By Sir Henry Craik.*—What is the age of the membership of the rifle clubs you speak of as being founded in your district?—The age of the members as they at present exist? Rifle clubs: ages.

9190. Yes?—I am sorry to say, I only remembered that point as I came here. I have not got the rules which state the limit of age.

9191. But roughly?—Roughly speaking, the lads do not join before fifteen. I think that is the age; I am not certain.

9192. Beyond the school age?—Beyond the school age.

9193. About the age of adolescence?—Yes.

9194. Is there a subscription required?—Yes; that is required partly because, of course, it is run privately, and the thing must be made to pay; and, secondly, because there is a rule of the National Rifle Association requiring a subscription. All my rifle clubs are affiliated to the National Rifle Association by a small subscription.

9195. It has never been contemplated to include such instruction amongst continuation classes as a piece of the educational system?—Well, it has been contemplated by me. I do not know whether it has by others, and in point of fact it comes to the same thing in one district—in the district of St Helen's—because the number of members at present is 160, although it is quite a small place, and of those, 109 have already passed a severe shooting test. Of those 160, a considerable number are older men, but I fancy that almost every lad in St Helen's has now passed the shooting test, so that the thing has been done voluntarily by the exertions of the local people in this place, St Helen's, which I suggest might universally be done in Scotland.

9196. By an educational authority?—Yes.

9197. You speak in one place of the importance of knowing the distance, and thus acquiring dexterity in shooting?—Yes, correcting the back sight; that is a thing so few people realise in shooting.

9198. That might be carried on without shooting at all?—Certainly, the judging of distance.

9199. I do not know if you have studied the subjects in our Code; have you ever paid attention to the subject of nature knowledge, to which we have paid a good deal of attention of late?—I am afraid I have not read the books on it. Code: nature knowledge: bearing on rifle shooting.

9200. One of the things that we very carefully urge in regard to the nature knowledge is the direct experimental knowledge of the standards of measure and weight, distance, and so on, and we specially urge that the pupils should, as far as possible, be taken into the open air to judge as to distance, to judge as to measurement of, say, a pole in the playground, or as to the position of the sun, so as to take the time of day, and so on. That is a new subject which has very much occupied our attention of late?—I would say it was most valuable, sir.

9201. Do you think that shooting might be a subject of instruction that would very well fall in with this general description of nature knowledge?—Certainly I would say so, sir.

Major J. E. B. Seely, D.S.O., M.P.
19 June '02.

9202. It would develop many of those faculties which we seek to develop by this subject, which is now recognised in the Code?—That and some other faculties.

9203. That would lead to the conclusion that the subject that you are so anxious to get introduced is really an educational subject?—Perfectly.

9204. And might very well be considered as such?—Perfectly.

9205. Can you say whether for dexterity in that matter, and for the measurement of distances, the training of the eye, it is important to begin at an early age, or can you do it equally well if you begin boys after their school age?—I should say you could begin equally well after the school age; but I think it most important that this dexterity in the aligning of the sight and judging distance should be acquired while a boy is still growing. I think there is an enormous advantage in teaching a man to align the sights before he comes to the age of an average recruit. I believe all musketry instructors are of the same opinion.

9206. What was the age of the lads whom you took out to this experimental shooting at Portsmouth?—They would average to be about eighteen.

9207. Then they were well past school age?—Yes. Of course you see the thing that we are aiming at has not been done at all, so we are taking them at a later age; people who can afford to pay 2s. 6d. a year.

9208. Have you ever had any experience of taking school children out into a camp in the summer?—I have been to some camps of Boys' Brigades.

9209. Where there was shooting practice?—No, the experience I have had in that way is one Board School in Ryde, where the headmaster happened to be an enthusiast on the subject of shooting, and to whom I have undertaken to supply ammunition for practice with Morris tubes for the boys, and it is part of his ordinary curriculum. But I understand that it has caused some opposition, and I think also it may cause inconvenience to the neighbours, and I therefore would not recommend it as the method to be adopted; I would much sooner have an open-air range.

9210. But a good deal might be done in this way at a summer camp without shooting at all, by simply sighting the rifle?—Then you will bore them?

9211. Has that been the experience of those who have tried the boys?—I should think so, as compared to the actual letting off of the weapon; still much can be done.

9212. I think there were some experiments of this sort taken from London schools, and I think they were very much interested?—Oh, they would be; but I think they would be more interested if you could arrange to have the ammunition.

9213. *By Sir Thomas Coats.*—Regarding the advisability of starting rifle clubs, I suppose you know that one of the great inducements to a great many men to join the Volunteers, not only those who have passed through the Boys' Brigade or some similar training, but those who have joined for the first time, is that they would be allowed to shoot?—Yes.

Volunteering: shooting an inducement to join.

9214. They join for the purpose of shooting?—Yes.

9215. Do you not think it possible that if they get the shooting without the trouble of drilling that they would go for the rifle clubs, and neglect the necessary amount of drill to make them useful men afterwards?—That, of course, had to be taken into consideration in the campaign I carried on in my constituency, and that is why I have put in my evidence that, in every place where there was not a volunteer company, one of these ranges has been opened, and added 'volunteer officers assisting in the 'movement.' It was thought by some of the volunteer officers—it so happens that my brother commands the volunteer battalion there—that that must be the effect, although I myself do not agree at all, and think that the more you familiarise people with shooting, the more anxious they will be to take up volunteering. I only founded these clubs in places where there was not a volunteer company, and I founded them largely with the assistance of volunteer officers. Of course it is too soon yet to tell what the effect will be, but, as far as it has gone, I think everybody is agreed that it tends to produce a spirit which realises the importance of knowing how to defend oneself in war, and, consequently, will be a help to volunteer recruiting. I believe that is the opinion of Lord Roberts. It is very strongly my own opinion, and, as far as it has gone in the Isle of Wight, such has been the fact.

Rifle clubs: effect on volunteering.

9216. Do you not think there is a possible danger of teaching men, or young men, to shoot without getting any training in drill? There is this difficulty. It is well known that in the late war in South Africa there were many instances in which one body of our own troops were firing against the other. Well, of course, they wanted drill badly, or else they would not have been doing that, and had they been very good shots things would have been very fatal?—It is an entirely novel suggestion as to the value of inaccurate shooting.

9217. My point is this, that I think they should drill the men first and get the shooting afterwards?—Well, I may say at once that I am, I suppose, the only member of Parliament who frankly says that he is very much in favour of universal military training. I have said so in the most public manner, and I say so here, although, as you are aware, every member of Parliament is informed that by so saying he jeopardises his chance of retaining his seat. But I consider the matter so important and urgent that I have abandoned the question as to whether that will be the effect or not, and I have frankly said in my constituency and elsewhere that I consider it is necessary to our national safety; and if that view obtained, and if we were organised somewhat on the Swiss model or the Swedish model, the objection that you, sir, raise would not obtain at all.

Univers military training advocat

9218. Oh, no; certainly it would disappear?—But I think half a loaf is better than no bread, and, therefore, if we can train the boys to shoot, we shall have done, as I say in my evidence, about one-fourth of what you possibly can teach people in time of peace; and if you are going to teach them as lads, there will be plenty of time afterwards to get them as volunteers. I know that there may be a thought that it is rather unwise to teach people the use of the weapon if you are not going to get them under any kind of discipline. As to that question about the parties firing at each other in South Africa, I have seen it happen frequently, and I myself have been subjected to a very severe fire from our own side in error, but I must add, not at all always from irregular troops; quite the other way, shrapnel and pom-pom, and even lyddite, has been fired at me and my men on numerous occasions.

9219. Not by regular troops?—By regular troops. I do not think that the reason you suggest was quite the reason of it; I think it is the natural inherent difficulty of distinguishing friend from foe when both are dressed so nearly alike.

9220. Regarding these scores, I am not surprised at the scores made, because, within my knowledge, recruits, after aiming drill and a little Morris tube practice, have done as well as you say here. But the difficulty comes in about the longer ranges. This practice was done, as you say, with a rear left or right wind?—A very violent wind; you had to aim off the target at 500 yards.

Long r

9221. At long ranges you have not only wind, but you have light to contend with, and that takes a lot of practice at long ranges?—Well, my experience is, that at long range you never can see your enemy nowadays.

9222. At 1000 yards or 800 yards; I have had some experience of rifle-shooting?—Yes. This Commission, I suppose, will dissolve too soon for me to have an experiment at the very long range, but I can have the same surprise experiment at 2000 yards, if the Commission would like.

9223. Do you not think judging distance a very important matter?—The most important.

Judgin distan

9224. Could not that be done very easily without shooting at all if you had the range-finder; take the

boys out in the country, and practise it regularly?—I think it would be most interesting, and if the element of competition came in, it would interest them still more.

9225. Of course with the range-finder you could tell whether they were right or not?—I think it would teach them much more of judging distance than shooting at the ordinary range.

9226. Which range-finder do you advocate for that purpose, not for ship purposes?—I should think that the range-finder as used by the Royal Artillery would be the best. I fancy it is fairly cheap; I do not know what it costs.

9227. Is it in one instrument?—No, the two with the long string with two men. I should think that would be a good thing for that occasion, because the boys would see exactly how it is done. It would educate the mind too—I mean it is a liberal education in a proposition of Euclid.

9228. There is one by Professor Pepper?—Is that the one with the other method.

9229. No, the long piece with the string?—That, I would suggest, would be the best; the boys would be most interested in it.

9230. I agree with you that the best shots are often men who are thoroughly sober and live a good life. There are exceptions to that, I suppose, you know?—Yes, I believe so; in fact I have known them.

9231. There are exceptions to every rule?—Yes.

9232. Regarding these disappearing targets, do you advocate the use of them before or after they have had a good deal of practice at the fixed?—I think it better to have a good deal of practice at fixed targets first to avoid any chance of accident, so that they might get entirely accustomed to the handling of the rifle; but from the point of view of the thing in war, we might give up shooting at fixed targets altogether. The ideal man in war, I should say, is the man who can shoot rabbits.

9233. Running men, pretty much like game shooting, in which hand and eye work together?—That is the valuable thing in war.

9234. It is a very different thing from firing at a fixed object?—I should say the firing, as conducted at present at fixed objects, is not at all good training, as it seems so me, for the purpose of warfare.

9235. It is one of the worst trainings they get for hand and eye to work together?—Quite one of the worst; unlimited time to arrange oneself and field-glasses and telescopes.

9236. *By Mr Shaw Stewart.*—On the point of the importance that you lay on the fact that boys should learn to shoot, do you, as a soldier, believe that shooting cannot be thoroughly learned as you think it should be learned by men over eighteen years of age unless they have had some practice in it as boys under eighteen?—I would not say it cannot be learned, but I would say it can be learned very much more easily.

9237. As thoroughly as you think it should be?—Well, I could not say that, because it depends upon how much time be given, but it can be learned much more thoroughly in the same time if you begin young—immeasurably more so; but I would say not before fourteen or fifteen, because before that age the boy will hardly understand the use of the rifle.

9238. Another question on another point. There is a difficulty in devising a scheme of universal attendance without compulsion at continuation schools for mental and physical training, and that is the difficulty of holding out sufficient attraction to get the young men to come in. Do you think that rifle practice would be sufficient attraction to get in boys and young men from fourteen to eighteen to the continuation schools?—I do think so, sir, most emphatically. Firstly, if some kind of prize, however small, were given to bring in the element of competition; and, secondly, what is still more important, if it were in some way or other in your Code, or otherwise by proclamation of some kind, made plain to the boys that in learning to shoot, and shoot accurately, they were adding enormously to our strength as a nation, and making themselves more efficient citizens.

Rifle practice: an attraction.

9239. That is, appealing rather to their feeling of patriotism?—Yes.

9240. I am thinking more of the young man's feeling of what interests him?—I should appeal to both, and I think you would get them.

9241. You think you would appeal sufficiently to his feelings of taking an interest in a sport?—Yes, more than any other kind of physical training, I should say. Certainly, it is more real.

9242. Would that apply to rifle practice at night?—To a less degree, very much, but it is a great deal better than not at all.

9243. Because you will easily understand that one difficulty that faces us is devising some method of attracting youths into some form of physical training after they have left school?—Perfectly; yes.

9244. And before they go perhaps to regular work?—Perfectly.

9245. You think, on the whole, rifle shooting is one of the attractions that might be held out to them?—Perfectly, with success.

9246. *By Mr Alston.*—You have said nothing in this evidence of yours about physical training during school age. Your evidence entirely applies to the teaching of rifle shooting; but would it not be of advantage that all these boys, during their school career, should have a thorough course of physical training?—Yes; I am very glad you have asked me to explain that. I may explain that I do not in the least under-rate the value of physical training from the point of view of national safety, but I speak purely of the rifle shooting, because that is the subject on which I have special knowledge, and I presumed that you would have many witnesses on other points.

Physical training should be universal.

9247. Because it has the appearance as if you did not care about anything but rifle shooting?—Well, if it can be made plain that, greatly as I value the physical training, and greatly as I deplore the low physique of a great proportion of our population, as evidenced by the continuing lowering of the standard of admission to the regular army, I refer to this and to this only because I understood you would have full evidence from other people on the former subject.

9248. We have had full evidence on that point?—I yield to no one that I consider physical training should be universal, and to its value to the nation in peace and war.

9249. But you would add to that. 'After you have 'done with them in the school, hand them over to me'?—Hand them over to someone, not to me personally; I am afraid I could not claim them.

The witness withdrew.

General E. F. Chapman, C.B., examined.

9250. *By Sir Henry Craik.*—You held for several years the position of officer commanding the forces in Scotland?—Yes, five years.

9251. And during that time you gave a good deal of attention to physical exercise and drill as interesting the general population, and in its educational aspects?—Yes, I took a strong interest.

9252. You were in contact with several of the Educational Authorities, I think, on the subject in Scotland?—Yes, with you particularly.

9253. But also with some of the school managers?—I was in correspondence with all the managers of the School Board, and saw a great many at Glasgow, Edinburgh, Dundee, and Aberdeen.

General Chapman, C.B.
19 June '02.

9254. You have put before us, embodying your evidence, the substance of what we have read in another form?—Yes.

9255. Which dealt in *Blackwood's Magazine* with the subject of this movement?—Yes. "It is difficult to over-estimate the importance, not only to Scotland but to the Empire at large, of the work assigned to this Royal Commission; but, if we are to obtain the fullest value from its deliberations, it must be supported by an adequate and enlightened public opinion, in formulating such a scheme for Scotland as may serve as the basis or model for a system suited to the needs of the nation at large. That the value of physical training is already generally recognised in Scotland, and that in this respect it is in advance of other parts of the kingdom, no doubt accounts for the fact of the appointment of this Commission; but it is of such vital importance that the true aim and principles of such training should not be lost sight of, that we do not hesitate to emphasise certain points that must be taken into consideration in dealing with the subject, and especially to invite their attention to an article which appeared in 'Maga' for March, 1899, on 'Physical Education in Schools,' setting forth very clearly 'the means by which such training may be 'made to conduce to the welfare of the pupils.' The writer of that article says, 'The mere exercise of boys 'in elementary drill and gymnastics, without the 'careful consideration of the physical condition and 'the special requirements of individuals, does not 'constitute physical education; nor yet, on the other 'hand, does an elaborate system of intricate drill and 'gymnastics, which has for its object the production of 'professional athletes or trained soldiers. Physical 'education is as extensive and varied in its character 'as the school life of the boy.' And its true aim is 'the training of boys under a system which concerns 'itself with the air they breathe, the food they eat, 'the lives they live, in order that they may begin the 'work of life with a large reserve fund of health and 'stamina.' In view of the truths here briefly set forth, it is a matter for congratulation that a medical expert has been included among the members of the Royal Commission, and we cannot doubt but that opportunity will be taken to obtain the advice and help of the Fellows of the Royal College of Physicians (Edin.), and of the Royal College of Surgeons (Edin.), for the members of those two important bodies should be able to suggest the character of the medical examination which pupils, both male and female, should be required to undergo, as well as the manner in which the system of training should be adapted to the needs and capabilities of the weaker and less developed, for on the principles of physiology, psychology, and of the hygiene of the human body any sound physical training must always depend. And here it may be well to point out how important it is that due consideration should be given to that side of the question which affects girls. Although they are not expressly mentioned, we cannot suppose that it is not intended to include them in the benefits of any scheme that may be adopted. The marked improvement in health and physical development which has taken place among girls of the upper classes is generally, and no doubt rightly, attributed to the fashion of playing outdoor games, and learning drill, gymnastics, or fencing. No one who has any knowledge of the girls or young women of the working classes but will admit the urgent need for improving their health and bodily development, or can doubt that such improvement would ultimately conduce to an increase of the national strength. Swedish drill has, of course, long formed an integral part of the elementary education of girls; and where military drill and gymnastics have been introduced into the schools for boys, girls have commonly been allowed to share them. But there is undoubtedly a danger that their special needs and weaknesses may be overlooked, and if they are to take part in exactly the same forms of physical training as boys, great care and watchfulness will be needed to avoid the danger of overstrain and consequent injury, which can only be safely guarded against by the teachers knowing not only the movement and system of the training, but also the principles of physiology and anatomy on which they are based. This brings us to the very important point of the training of the teachers. Whether the physical training be given by the regular teaching staff of the school or by outside instructors, it is absolutely necessary that it should only be given by persons thoroughly trained for the purpose. In America this training is very generally provided for, notably by the Boston Normal School of Gymnastics, which was established in 1889 with the object of supplying the best opportunities for men and women who desire to prepare themselves to conduct gymnasia, or to direct physical training, according to the most approved methods. The curriculum is so arranged that instruction in the theory and the practice of gymnastics go hand in hand, and includes such subjects as biology, chemistry, anatomy, psychology, and pedagogy. The course extends over two years, and at the conclusion students who have fully satisfied all the requirements, and have given evidence that they are likely to maintain or carry forward successfully their professional work, receive diplomas. These diplomas, however, are given only to thoroughly-trained students. Although we have no college in this country which gives quite such a wide and scientific course of training as the Boston Normal School of Gymnastics, the needs of would-be teachers of physical exercises have not been altogether overlooked. Very excellent work has been done by the Aberdeen Physical Training College, instituted in 1889 for the special purpose of training teachers both in the theory and practice of physical culture. During the first seven years of its existence over a thousand teachers passed through its classes, and its certificates are recognised by the Scottish Education Department. There are many other institutions, both in England and Scotland, which are capable of doing the same work; but there is not one in which the instruction given has the same scientific basis as the American college. The system adopted at Aldershot for the training of military instructors has been very carefully worked out on scientific principles, and might very well be taken as a model for that to be carried out in other places. On whatever plan the training of instructors may, however, be arranged, the successful working of the system must largely depend on the character of the examination and inspection to which the pupils may be subjected. The Education Code provides for the cost of examination in all subjects taught in the schools, and qualified inspectors, either of gymnastics or military drill, might easily be found among officers of the army or of the volunteers, who could be specially selected for this duty by the colonel commanding the regimental district. Perhaps the most interesting and important part of the work confided to the Royal Commission is that which deals with the question of continuing and developing the opportunities for physical training for those who have left the day-schools. The power of the State to make education, whether mental or physical, compulsory, ceases at the age of fourteen; but it is just at this age and on to eighteen that the necessity and advantage of physical training are most apparent, and it may be that the labours of the Commission may lead to some form of physical and even military training being made compulsory for all boys between fourteen and eighteen years of age, on some such system perhaps as that which has been sketched by a recent writer in the *Times*. He quotes the words of Lord Balfour's letter to School Boards in Scotland as to the value of military drill:—'Not only does it tend to improve 'manual dexterity and to render more alert the faculties of observation, but it is also pre-eminently useful 'in developing those habits of comradeship, of responsibility, and of individual resource, which are of 'supreme importance, not only to the nation as a 'whole, but to the individual pupil'; and he enforces them from his own experience as an employer of labour both in this country and on the Continent, having formed the deliberate opinion that military training, in the countries where it is practised, has not only a high

Public opinion.

Physical training: true aims.

Girls.

Overstrain: care necessary.

Gene... Chapma... 19 Jun...

Trainin... teacher...

Americ... system.

Aberd... Physic... Traini... Colleg...

Alder... systen...

Inspe...

Conti... Classe...

Comp...

physical and moral, but an appreciable and calculable financial value, which varies in direct proportion to the thoroughness and strictness with which it is enforced. But there is no doubt that a great deal may be done voluntarily to improve the opportunities for physical training available for boys who have left school, and to encourage them to take advantage of these opportunities. The Secretary of State for Scotland possesses a very favourable position for directing an inquiry into these subjects, and of securing the co-operation of the various bodies, other than educational ones, which have already exhibited an unusual interest in the practical working out of the problem set before the Royal Commission. The municipal authorities in most cities and towns throughout Scotland have long been supporters of the movement for improving the physique of the population; at Aberdeen, Dundee, and other places they have supported the quasi-public gymnasia, where school-teachers and others obtain certificates of qualification in the teaching of physical drill, and the County Councils, notably in Fife, have not been backward in giving similar encouragement. The athletic clubs throughout Scotland have done, and are doing, much to improve the physique of the Scottish youth; and, lastly, the Scottish volunteer authorities have introduced a system by which all would-be volunteer recruits must pass certain tests in physical fitness. All these different bodies have been working with the same end in view—namely, the physical development and training of the youth of the nation; and if the Royal Commission is able to inquire into the various schemes now in operation, and to suggest some method by which they may be co-ordinated and combined for the common good, the practical solution of the problem will not be far distant. The vital importance to the nation at large of improving the physique of the population of such cities as Glasgow and Dundee cannot escape the notice of a statesman like Lord Balfour; but the question no doubt arises as to what is the proper authority to undertake the work, which, as regards youths between fourteen and eighteen, must be looked upon as a continuation of that done in the day schools; and no doubt the recommendations of the Commission will deal with the question as to whether it should be undertaken by the Education Department, or by county or municipal authorities, in the same way as technical education is now. But, in the absence of any compulsory system of training, the unification of system and increase of opportunities will fail to induce those who especially need this training to undergo it. This can only be arrived at by putting a premium on physical qualification in all selections for posts under Government or under municipal authorities, and by requiring a certain number of attendances either at evening classes for physical drill or at out-door training. The enormous success of the Boys' Brigade, especially in Scotland, is a convincing proof that both parents and boys themselves recognise the real moral as well as physical value of military drill and training. Though this association aims at producing God-fearing citizens rather than soldiers, its organization is closely modelled on military lines, and it is really in close touch with the volunteers through its officers, many of whom hold commissions in the volunteer force. These facts seem to point to the possibility of some similar organization, which should include all boys between fourteen and eighteen, and which should be closely allied to the local volunteer battalions, so as to share with them the use of their training grounds or drill halls. These latter are a necessity in any scheme of general physical training, and the expense of providing them is one of the obstacles in the way of the introduction of such a system; but if an arrangement could by made for the use of the existing halls by boys at an hour when not required by the volunteers, the expense would be greatly reduced. This association with the volunteers would have the further advantage of familiarizing the boys with the idea of joining our 'citizen army,' and it might be reasonably expected that a large proportion of them would do so on reaching a suitable age. In this way the physical training of our population at school, during youth and in manhood, might be made to correspond to the threefold division of primary, secondary, and higher education, and military training take its place beside elementary and technical training as a recognized part of the national system of education. We have endeavoured to indicate as far as possible the points to which it seems to us the Royal Commission on Physical Training in Scottish schools will need to direct its attention, and to suggest the lines along which its inquiries may be most fruitfully prosecuted. It remains only to appeal to the patriotism of Scotsmen generally to ensure that the work of the Royal Commission may be of the utmost value to the nation. The honourable pre-eminence in education for which Scotland has so long been noted, and the phenomenal success of her sons in all walks of life all over the world, has a very direct connection with the physical health and strength of her population; and it must be a matter of national concern that effective measures should be taken in time to prevent the weakening of this health and strength through the conditions of modern life and civilization. As already shown, there is a wide recognition of these truths, and many efforts have been made to encourage and develop physical training; but what is needed now is that all who have the cause at heart should come forward and put their knowledge and experience at the disposal of the Royal Commission. We would specially appeal to those Lord Provosts and Provosts, and other members of municipalities and county councils, who have done so much in the past, to take advantage of the present opportunity to secure a real and thorough consideration of the whole subject as it affects the youth of the nation. The reference to the Commission directs its inquiry not only to the State-aided schools, but to other educational institutions, among which the magnificent endowed schools of the Merchant Company of Edinburgh, of the Heriot-Watt Trustees, and of other bodies are, of course, included; and with such resources at their command, we cannot but hope that the labours of the Royal Commission will result in the establishment of such a system of physical training throughout Scotland as will give a lead to public opinion, and serve as a model for systems to be adopted throughout the Empire."

9256. Might I just ask, then, some questions as to some of the points that are raised in this statement, which seem to be of special importance? You say: 'The mere exercise of boys in elementary drill and 'gymnastics without the careful consideration of 'physical conditions and the special requirements of 'individuals does not constitute physical education; 'nor yet, on the other hand, does an elaborate system 'of intricate drill and gymnastics, which has for its 'object the production of professional athletes or 'trained soldiers.' You think that is so—that for the real educational benefit to the individual you must not look to the purely professional aspect or military aspect of it?—Certainly not.

Medical supervision.

9257. And that to secure ourselves against any dangers you must have careful medical supervision?—Certainly.

9258. Have you seen, in the course of your inquiries, any dangers arising from the want of medical supervision?—Well, I have noticed in the schools the training of girls in athletic exercises, notably at Sciennes School. Sometime ago I went with Mr Murray and pointed out to him that he was employing an instructor who really did not know his work; that the instructor was giving to young girls exercises that were only designed for young men, and that in that manner he was endangering the health of the pupils, and also the success of the system.

9259. Was it a system of his own devising, or was it any system that is generally in vogue?—No, it was of the instructor's devising.

9260. And based upon insufficient physiological knowledge?—He employed an instructor without knowing that the instructor was not qualified. In the same way, in a Board School—I forget the name of the Board School, I went to two or three of the Board

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Schools in Edinburgh—they were all of them failing in the same way, because the instructors had not been taught the latest Aldershot system.

9261. You visited, I think, in my company, the Training College in Edinburgh?—Yes.

9262. And we saw several exhibitions of physical drill in the Waverley Market and in the Music Hall in Edinburgh?—Yes.

Aldershot system: exhibition seen and commended.

9263. Would you give the Commission your impression as to those?—Well, most of those exercises were on the Aldershot system entirely, and the only instructors that are qualified have been trained at Aldershot, and I thought that the exercises were very good indeed at the time, and they compared very favourably with what we saw the other day at the Albert Hall.

9264. In the Music Hall the school that was shown was the Merchant Company's School for Girls?—Yes, the Merchant Company's School.

Swedish system for girls.

9265. That was not purely the Aldershot system?—No; that was the Swedish system.

9266. How do you compare that with the Aldershot?—That is a very superior system—very superior for girls.

9267. To the Aldershot system?—It is the best system that can possibly be introduced for girls.

9268. But you do not think it is suitable for boys?—No.

9269. And, on the other hand, you do not think the Aldershot system is quite suitable for girls?—I would make a modification in it. I think there ought to be a modification made, with medical advice.

Uniform system: reasons.

9270. Then that brings us to the question, how far would you insist upon a uniform system, or how far would you allow diversity?—I would advocate a uniform system throughout, and any alteration of the system will be more or less a change in the exercises given to the pupils.

9271. Can you give us any reasons upon which you base your opinion as to the benefit of a uniform system rather than a system modified from time to time according to the notions of different masters?—The Aldershot system is a system that admits of a great deal of elasticity. For instance, during the last seven years it has undergone great changes, and year by year, as a particular exercise is found to be of greater value than another, more attention is paid to it.

9272. But it is based upon certain general principles?—It is based upon general principles which have been worked out and thoroughly tried.

9273. Can you describe what you think the general principles ought to be upon which any system is based?—I think that is too technical a question for me to answer. You will find it explained in any book on physical drill.

9274. It is a broad question for the Commission. Should it be a system which develops muscle, or rather which produces agility and lightness without undue fatigue?—Certainly the last; we do not want muscle at all.

9275. Have you studied Mr Sandow's system?—Yes.

9276. And are you in favour of that or not?—Not at all.

9277. Then perhaps you would tell us what you think are its defects?—Well, there again, it is difficult to state what I think are its defects.

Sandow's v. Aldershot system.

9278. But could you tell us how it compares with the Aldershot system which you favour?—No; I do not think I can, because it has not been tried in the same way. The Aldershot system has been tried with a large class of recruits, and we have for several years proved that we are satisfied with it, and we consider the development of the recruits, and their growth and health in carrying it out, and that is proved by the medical opinion to be thoroughly good. The system of Sandow has merely been experimented upon, and it produces a great deal of muscle, as you say, but the great question is whether it develops all the faculties of the body that are required to make a healthy man. I do not think so.

9279. The system you wish is one that should not develop too exclusively in one direction, but should train the body all round?—Certainly.

9280. Passing on, you say that you are very anxious that due consideration should be given to the side of the question which affects girls. Are there any points that you would like to call the attention of the Commission to in that respect?—Well, I think girls should undertake only a portion of the exercises that are given to boys.

9281. Would you carry it on in the case of girls with musical accompaniment?—I think I would for girls.

9282. You think it relieves the strain upon them?—Yes.

9283. Would you have it conducted by male or by female teachers in the case of girls?—Male teachers are very good for all schools, but in many cases I would sooner have the lady teacher.

9284. And in your experience of the schools, did you think the best results were obtained by the lady teacher?—Those that we saw were excellent. The Merchant Company's Schools were excellent, but they are rather a class above what we are talking about.

9285. Oh, no; the Commission includes all classes; it is not confined.—I do not think I would limit the teachers; they must be men or women as may be thought fit.

9286. That brings us to the next point in the paper which you submit to us—the training of teachers, and you are anxious to urge certain views with regard to that?—Well, my view is one that I have always held and have put forward very strongly to the War Office, and I put it forward to the Lads' Drill Association, of which I am a member, that there should be a gymnastic school for civilian teachers arranged close to our Aldershot school for military teachers, and that the same system should be worked, with such modifications as may be desirable in either case.

9287. But do you prefer a separate school to which the teachers should go for this physical training rather than a system by which the physical training should be introduced into the existing Training Colleges for teachers?—No, I do not want them all to go to the one school, but I want the school to issue the plan of teaching, and to have any instructors that require it sent to the school for training.

9288. But why should they not have adequate provision made for them in their existing Training Colleges?—I do not see any difficulty at all, but you do not understand exactly what I mean by a school. A school like the Boston Normal School in America is practically a college, and has courses of instruction for one or two years, and people go out more or less qualified as instructors, and take the lead anywhere they may choose. All I want is that there should be a school.

9289. Then you contemplate that the instruction in this part of education should be in the hands of special teachers trained in this school rather than in the hands of the ordinary teachers receiving special instruction in this subject?—Oh, no; the ordinary teachers may receive instruction according to any rules the school may lay down.

9290. Yes, but would you rather have the teaching in the hands of the ordinary teacher, provided they were sufficiently trained in this way, or would you prefer that it should be in the hands of special instructors, quite apart from the ordinary body of teachers?—I think the ordinary body of teachers must go through a certain training, and be made fit to impart the knowledge in physical drill that they require to do.

9291. I think you have hardly answered the question, which is one of much interest for the Commission, whether you should prefer that it should be in the hands of the ordinary teacher having had a certain instruction, or in the hands of a special class of physical instructors distinct from the ordinary teachers?—Oh, I think the course can be mastered by the ordinary teachers.

9292. And you think it would be more desirable

than to leave it in the hands of the ordinary teachers? —They should be made to go through the course.

9293. It should be a part of their ordinary training that they should get some instruction in physical exercise?—Yes. Do you remember the volunteer company that we saw at the Training College in Edinburgh; well, the men in that volunteer company have gone out as teachers qualified to carry on the physical training.

9294. Then, so far as you saw the work in the Training College, you think they were receiving adequate preparation for their work in physical exercise? —They were doing very well, indeed; but I sent for the captain of the company, and pointed out to him some things in which he was defective, and recommended him to go to Aldershot to get a refreshing course.

9295. But they were upon right lines?—They were on the right lines.

9296. And that system was satisfactory, only you think that it required additional inspection and supervision?—That is all.

9297. And advice?—And a refreshing of knowledge.

9298. By coming to a central physical school?—To a central physical school.

9299. And you prefer that there should be one for Scotland rather than that they should go to Aldershot? —No, I do not think I do. I think, for instance, in Scotland we managed very well by getting the instructor at Glasgow thoroughly taught at Aldershot with a staff of men trained at Aldershot.

9300. But do you think you can get all the teachers in Scotland to go up to Aldershot?—No, I should say not; but there could be a school. The advantage of having it at Aldershot is that there is the headquarters of the army system. We cannot make another.

9301. Then passing from that, you speak of the importance of a system of supervision and of inspection, and you say that the successful working of the system must largely depend upon the character of the examination and inspection to which the pupils may be subjected. Now, could you give us any suggestions of a practical nature as to that?—Well, I have talked that over with you before. I think the allowance for an inspection is sufficient to cover the travelling expenses of volunteer officers or sergeants-major in cases of smaller schools, and I think it can be easily carried out in a regimental district under the orders of the colonel commanding, in communication with the Educational Authorities, and I do not think that there need be any great disturbance of the existing system, provided it is allowed.

9302. Then we come to a very important point in your evidence, which, you say, is the most interesting and important part of the work confided to the Royal Commission, that which deals with the question of continuing and developing the opportunities for physical training for those who have left the day schools. Well, what suggestions would you offer as to that?—I would like to draw your attention to what exists in Scotland. There is a great deal in Scotland that exists that is not in any other part of the British Islands. The athletic clubs in Scotland, the Edinburgh Harriers, the Athenæum Club at Glasgow, the club at Dundee and at Aberdeen, and at Leith and other places, they are all working in one direction—to improve the physical condition of the people. And these clubs are taken an interest in. The Lord Provost is president of the Edinburgh Harriers' Club; the Provost of Leith was president of the club at Leith; and the Lord Provost of Dundee was president of the Gymnastic Club of Dundee; and the Lord Provost of Aberdeen took a large part in the matter; and they were all endeavouring to aim at one thing; and it was taken up largely by the School Board in Aberdeen and Sir John Cuthbertson in Glasgow; they were all anxious to arrive at the same thing.

9303. And they were doing good work?—In addition to that, the Boys' Brigade existed at Glasgow and all over Scotland, and the Boys' Brigade, I found, had its officers very largely taken from the volunteers, they all wished to go through physical courses in order that they might train the boys, and were doing their utmost; so that I think the Commissioners must not lose sight of what is already existing and what I said in the Article was that the different means should be co-ordinated to arrive at some system that will suit the whole country.

9304. Then what you say shows that there is a good deal of work being done for this class of lad?—A great deal.

Public gymnasia.

9305. And that it is in the right direction so far as it goes, these various agencies of the gymnastic clubs and the Boys' Brigade, and so on; but do you think that it adequately fills the whole field, or that there is a large class which they fail to get hold of through these agencies? —I have always advocated public gymnasia in all towns of importance, and the Lord Provost of Edinburgh had a Committee at my instigation to consider the formation of a gymnasium in Edinburgh, and that Committee came to certain resolutions and conclusions, and it only wanted a certain amount of money to be carried out; and I think that the idea is in all cases to form the gymnasium, where they may have classes as they now have at Dundee and in Aberdeen.

9306. But was that gymnasium actually established in Edinburgh?—No, because the Lord Provost went out, another Lord Provost came in, and we had not the £10,000 we wanted. We are waiting for £10,000.

9307. So that you think the voluntary efforts have been very good so far as they have gone, but that they want to be more universal and have a wider range?—Yes.

9308. And supposing these opportunities were provided, would you require that the youth of that age should avail themselves of them?—I think in my article I have said something about it.

9309. 'But there is no doubt that a great deal may 'be done voluntarily to improve the opportunities for 'physical training available for boys who have left 'school, and to encourage them to take advantage of 'these opportunities.' But I wish clearly to understand for the information of the Commission, are you prepared to say that it ought to be made a matter of compulsion that they should use these opportunities if provided, or are you not prepared to go so far?—Well, I say it in this way: 'In the absence of any com-'pulsory system of training, the unification of system 'and increase of opportunities will fail to induce those 'who especially need this training to undergo it.'

9310. For them would you require compulsion?—Certainly, I say the absence of that will make them fail to undergo it.

9311. And you think the legislature will be entitled to enforce it; that is the point I want to get your answer on?—I think that is a question in regard to which I am afraid I must read the other portion of my sentence: 'This can only be arrived at by putting a 'premium on physical qualification in all departments 'for posts under Government or under municipal 'authorities.'

Encouragement preferable to compulsion.

9312. Then you would prefer rather that it should be by encouragement, and by the recognition of the physical training, rather than by any system of compulsion?—I think you will get it most easily in that way. But then I say at the end: 'And by requiring a 'certain number of attendances, either at evening 'classes for physical drill or at outdoor training.'

9313. Then summing up your position, as I take it, is this, that you think that these physical exercises, quite apart from their importance from a professional or military aspect, form an important part of the education of every individual?—Certainly.

System based on certain principles.

9314. That they must be carried out by one system, which, without being uniform, must be based upon certain general principles. That is your view, I think? —Yes.

Medical supervision.

9315. That it must be under medical supervision, and that the medical supervision of the children in our schools must be increased: that you think also—you

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have said so, I think, in the evidence?—When they are undergoing this course.

Ordinary teachers: careful inspection.

9316. And you think that the subject is one of equal importance for girls and for boys, and that the ordinary teachers might be entrusted with this part of education, provided always that they receive adequate training according to some authoritative system. I think that is your view?—Yes, and careful inspection is introduced.

9317. And that there should be adequate inspection and supervision?—Yes.

9318. That with regard to the boys over school age, you are quite convinced that opportunities should be provided for it, and that they should be encouraged, if not compelled, to make use of these opportunities?—Certainly.

9319. But you hesitate to apply the word compulsion?—I only hesitate about compulsion because I feel that it is a difficult question to raise.

9320. *By the Chairman.*—I think it is not only a difficult question to raise, but it is a difficult question to settle; more difficult to settle than it is to raise?—What I feel is, that if I raise it now, or anybody were to raise it, it would lead to the whole question being put off.

Duke of York's School: similar institution in Scotland desirable.

9321. You are acquainted, are you not, with the Duke of York's School and with the Hibernian School?—Yes; I have not been to the Hibernian School.

9322. But you know of its existence?—Yes.

9323. Do you think it is a pity that there is not a similar institution in Scotland?—I think it would be a very good thing.

9324. As an object lesson as to what can be done by the system which I understand you to advocate in particular, namely, the Aldershot system?—Yes; I think it would be an excellent thing.

Cruden's system.

9325. May I ask, are you so wedded to the Aldershot system that you consider Colonel Cruden's system not sufficiently adequate for school purposes?—Colonel Cruden's is the Aldershot system.

9326. Not absolutely?—Well, I mean to say it is as near it as can be. He was trained at Aldershot; he began by going to Aldershot to acquire his knowledge, but this was some time ago.

9327. May I not say that you gave approval to the officer in charge of gymnasia in Scotland to inspect certain exhibitions of training in schools?—Yes.

9328. You may take it from me that that officer has stated to us, in his evidence before us, that in one place, if not in more, he considered Colonel Cruden's system extremely faulty?—That is because Colonel Cruden has not refreshed himself; has not had the refreshing at Aldershot that he might have had.

9329. Another point; the Aldershot system is, of course—I think I am right in saying, am I not?—only good, if it is really properly taught by those who know how to impart drill?—Yes.

9330. And that a poor or even a mediocre knowledge of drill almost reduces it to absurdity?—Yes.

9331. That there is no benefit to be obtained from it unless it is imparted by one who knows how to drill children?—Quite so.

9332. What I rather want to get at is whether you consider that teachers are, as a general rule, sufficiently trained to be able to impart drill to be of any use?—We have a lack of teachers; there are not enough.

9333. Teachers in Scotland; in schools, I mean?—Teachers in schools must be qualified.

9334. Yes, but what they call qualified; they may be qualified to know the exercise, and not qualified in the least to impart it?—That will not do at all; they must go through a course.

9335. Have you from your personal knowledge any opinion on that point, having seen teachers who have been through schools, and who are supposed to be qualified; I rather mean my question to apply to Scotland?—Of course there are cases of the kind; if you go round the schools you would see them; these teachers vary enormously.

Teachers: ordinary staff should be properly trained.

9336. What I rather want to get at is, do teachers vary so much that we ought to cast them aside, and not rely upon them as being generally fitted to teach physical exercise or gymnastics or drill?—No, I think ton; I think that would discourage them altogether in work in which they are very much interested, the improvement physically of their pupils; and it is very important to get them to go through the requisite training, in order that they may impart instruction.

Gen. Chapm.

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Inspect expert.

9337. Should you be in favour of teachers being inspected, not merely by the ordinary inspector but by an expert as well?—Certainly.

9338. In physical training of all kinds?—Yes, if you can arrange it.

9339. What is your opinion of inspectors' knowledge of what is good or what is bad in drill as existing; have you any opportunity of knowing as to that point?—A small number only are qualified at present.

9340. In order to strengthen existing inspectors, I understand you recommend that they should be aided by an assessor in the shape of an expert?—Yes; that no officer should be named as an inspector unless he has certain qualifications which are approved of by the Gymnastic Instructor.

Inspect schools.

9341. I am meaning His Majesty's Inspector of Schools?—The Inspector of Schools; I consider him quite unfit to make the inspection.

9342. Without assistance?—Without being tested himself.

9343. Or the assistance of an expert assessor?—Yes; it is impossible.

Boys' B

9344. *By Mr Alston.*—You of course know a good deal about the Boys' Brigade?—Oh, yes.

9345. I think you remarked a little while ago that they have done a good deal for physical training; did you mean simply in their military drill, or apart from their military drill?—Well, in their military drill they have begun physical training; they have not opportunities.

9346. That is what I wanted to bring out. They have no opportunities other than their military drill, unless one of the officers happens to be a gymnast, in which case he probably starts a gymnastic club?—Yes.

9347. But would that military training of the Boys' Brigade be sufficient as physical training for the upbringing of the youth in the school?—No.

9348. It would not?—No.

Trainin schools desirabl

9349. As the Chairman has said, we have been puzzled to know how to secure uniformity in physical training in schools among the various methods that have been produced; could you help us in that direction?—I think the only way is to form training schools, from which all the different ideas and orders should go out to the teachers.

9350. That would certainly obtain uniformity throughout the country, but it begins by insisting upon one particular method of instruction at headquarters?—Yes.

Aldersh system modifie children

9351. And I think you said that the Aldershot system, in your view, is the best?—Undoubtedly.

9352. You think that it contains all the elements for training the child?—Yes; I think it has everything.

9353. Every part of the body?—Yes; I only think that it ought to be modified according as children are more or less capable of undergoing it.

Medical inspecto

9354. Would you leave that in the hands of a medical inspector?—I would leave that in the hands of a medical man.

Aldersh system elasticit

9355. And you think there would be sufficient variety in the Aldershot system to provide physical instruction in the schools, both for boys and for girls?—I think there is great elasticity in it. For instance, Colonel Napier the other day was saying that one particular exercise was found the value of two or three years ago, and that exercise has been developed; and another exercise which was found to be useless—for instance, in lunging, it was found to be very difficult to carry out a certain position—it was then given up.

9356. Who introduced that exercise?—Well, the system was introduced at Aldershot, but Colonels Fox and Napier, the superintendents, found year by

year certain improvements to introduce. They have acquired a great deal from the Swedish drill, and from other schools, and they find out things every year.

9357. And the authorities at Aldershot are not so hide-bound as to refuse to introduce all the improvements that are necessary?—Not in the least.

9358. And I suppose the drill is a form of drill that the medical profession would approve of as fulfilling the requirements?—The medical profession have been consulted in every step that is taken.

9359. We saw a form of drill to-day in which improvement in the chest, the heart, and the lungs was apparently brought to great perfection by breathing exercises; is there anything of that kind at Aldershot?—Partially.

9360. A boy under fifteen, thirty-nine inches round the chest, produced by this particular method?—Yes.

9361. Is that to be found from the Aldershot instruction?—No, I do not think you would find a boy of fifteen there. Breathing and supplying the body with air is a common practice in certain exercises; in bending and stretching and rising they are taught that.

9362. The medical gentleman in charge laid great stress upon this training; he said we might expect boys trained by this particular form of exercise would, in after years, be entirely free from all lung disease?—That is a very happy conclusion to have arrived at.

9363. Other things being equal, and the boys not exposed to dangers from the outside; but he said practically these boys should be free in after-life from all ailments of the chest. In the same way with the exercises which strengthen the muscles of the abdomen, these boys should be free from danger in that quarter, such as hernia, and other strains?—Yes.

9364. The Aldershot system would produce these results also?—I suppose it would produce them all, not so distinctly.

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9365. I notice, General, you advocated gymnastics in the schools; you mean gymnastics with apparatus?—Yes.

Applied gymnastics.

9366. Would you distinguish between these and the physical training on the floor, extension motions and so on, either with or without dumb-bells?—Gymnastics with the apparatus must take time.

9367. Would you advocate the gymnastics for boys in school?—When it could be done; when there is a good gymnasium; but I do not see why boys should not go through physical exercises without having gymnasia.

Physical exercises, gymnastics, and military drill.

9368. That is what I meant. Would you be content with physical exercises without gymnastics?—No, I would not be content with them.

9369. You would commence apparatus with the boys in the school?—Yes, an enormous number of schools never practise.

9370. And then would you add the military drill to that?—Yes.

9371. Would you say that military drill was a necessity, and that the boy would not get all the benefit he ought unless he had gone through the complete military drill?—I think so.

9372. With the rifle—the dummy rifle?—Then you are going further still.

9373. I am thinking of military drill involving the manual and firing exercises?—I do not think a boy needs to handle a rifle; at fourteen he is very nearly too small; I do not think it is the boy that needs to handle a rifle.

9374. No, but I am thinking of the boy that needs to handle the rifle for the purpose of putting the finish upon the exercises in his military drill?—Yes, just when he is leaving school.

9375. Fourteen?—Yes; at fourteen, I think he might.

The witness withdrew.

Adjourned.

TWENTIETH DAY.

Friday, 20th June 1902.

At 36, Great George Street, Westminster, S.W.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

Sir THOMAS GLEN COATS, Bart.	Mr M. H. SHAW STEWART, M.P.
Sir HENRY CRAIK, K.C.B.	Mr J. C. ALSTON.

Mr R. B. PEARSON, *Secretary.*

Mr GEORGE SHARPLES, examined.

Mr G. Sharples.
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9376. *By the Chairman.*—You are the headmaster, Waterloo Road Board School, Manchester?—I am.

9377. You have been so for some time?—Thirteen years.

9378. You have your notes before you; will you please read from them?—I have set out on this note merely the various forms. I take it for granted that practically you have had evidence with regard to these, so I simply set them out. The point, it seems to me, that you want me to deal with is as to whether these are carried out, or can be carried out, under present conditions. Now, then, on I.: As you are aware, we have set out in the various schools in England various forms of calisthenic drill, but, to my mind, they are not suitable for the conditions under which they have to be carried out in the majority of schools in the country. The difficulty is that almost invariably you find the schools crowded with furniture, every classroom, so that practically they are driven, in the majority of instances, to the open air. In many cases

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that cannot be done, because they have not suitable playgrounds to carry out the exercises properly, and further, that there are not even public grounds to which the children could be taken for the purpose. It seems to me that what is wanted—shall I say a gradation of orderly physical exercises, that could be taken even with furniture in rooms, until such times as we can prevail upon—shall I say the new authorities in England and the present authorities in Scotland? I cannot speak for Scotland; I ignore Scotland in this matter; a dangerous thing to do, I know, but still I am bound to—to introduce some graded, perhaps I had better say, scale of exercises to be performed in the school. In Manchester I think we are going to get over that difficulty somewhat. We have had a physical instructor appointed; he is totally different, in my experience, to physical instructors in a way, in the sense that he spent the first few months in the city in visiting the schools, and seeing the conditions under which the physical exercises had to be carried on, and on that he has based his exercises, which can be graduated for the different schools, but each bearing the essentials. Again, with regard to the marching exercises, I think that these could be done in the schools if there was a proper supervision, if the teachers thoroughly understood what was the meaning of the marching exercises, and there was some one to encourage these things to be done under ordinary conditions. The breathing exercises, of course, can be done anywhere. My opinion is that you really do not need to go through a long exercise to do that; they could be done using the wall as a base or using the desk as a base. You see I have added games for infants in the first portion. Now those are for ordinary schools, and I think they attempt to carry them out. What we want, of course, is a room, at any rate one room if not a central hall, without furniture, where they could be taken for some of the more advanced exercises. Suitable playgrounds, of course, and I am hoping that in England with the new arrangements, if the municipal authority is formed as the basis, seeing that it is a body that controls the education of the children and yet has control practically of the city, that they will see to it that there are suitable open spaces and gravelled spaces. I do not know quite what you understand by gravelled spaces. Salford has solved that very effectively in their congested districts by taking an area and simply gravelling it, and putting a good stout pipe round—a gas-pipe 1½ inches in diameter, or an ordinary pipe of that character, with posts, where two or three matches, say, could be played at once, and undoubtedly they are the most active places in the whole town every spare leisure moment. Now take the suggestions in connection with I.—the room for each school to be free of all furniture, the drafting of suitable exercises for different types of schools. That has not yet been done. There is an attempt being made in Manchester. We have a system in draft which will be in print in a short time and can be obtained, and I think you ought to have a copy. I think you will find in it suitable exercises, comprising calisthenic exercises, marching exercises, leaping and jumping, which I am sorry to see is not carried on in the schools as they ought to be. Leaping and jumping are the finest exercise for the training of the muscles of the leg that I know of. As an old football player, I can say they are capital practice for the hot cup tied between Lancashire and Yorkshire—you know what they are. We used to fit our men in that way. Leaping and skipping and jumping could be carried on with the ordinary jumps—hop, skip, and a jump, and the standing jump could be done anywhere. They do it in the street in my district, but still it ought to be carried on. The setting aside of one of His Majesty's Inspectors or Junior Inspectors, in each Chief Inspectors' division, to make a special study of physical training, so that he could advise on, not inspect, the physical training in the schools. May I point out that we have had issued in England, just lately, model exercises, and we find that these exercises are expected to be carried on in schools where practically there is only one adult teacher, and where there are many divisions? The ages vary from the very lowest to the very highest, in numbers, say, from forty to sixty in average attendance, and they find they cannot do them. If they complain, they are simply told by some inspectors that is the book, that is the model set down; they have got to do it. I do not think that is quite what we want. I think if you had one officer who would make this a special study, and call the teachers together in the various districts, either through the District Unions or through the Local Associations, in a few kindly words of counsel, thoroughly understanding his subject, he would be able, I think, to get the teachers to see that this is as vital a matter—to my mind even more vital—than the ordinary education work. We shall never get on until we do get that spirit in the schools. An instructor for every Local Authority's district—that, I think, is very important. That, perhaps, would almost do as well as an inspector for each district, if we had some inspectors who would make it a special point in their work. II. is physical training in the playground outside school; of course II. and III. are outside school.

9379. I take it from you that is what is done at present: military drill, with physical exercises, or organised games?—Not universally. They have an opportunity to do that; they are encouraged to do that; that is to say, in large towns, of course, they do, but I do not see how they can take military drill in the smaller schools. All the boys take military drill in Manchester. In Manchester all the boys in the schools have been taught military drill by two instructors. I say that in Manchester, up to this new appointment, military drill has been taken by the boys in the Board Schools throughout the city, not taken in the school, but in the playground. In my own place we have kept it up in the ordinary way. We have five companies now of boys who are drilled regularly. Then, as to organised games in Manchester and in many of the large towns in the country, they are now carried on with wonderful success, and I am bound to say that I think this is one of the very finest ways of training the boys physically. You have my paper where I have summarised all these. It is too long; it is no use going through it now; I would refer you to what I have written. Then skipping and running exercises we have done with the girls, and that is extremely important. Then the difficulties. I am speaking now for the schools in general. This could not be done unless, of course, we had a room, which in some of our great cities might be brought about, and good playgrounds. By physical training applied, I mean that you carry this on in a wider way—that is to say, by the formation of School Associations. You get competition in the games, football and cricket, between school and school, carried on under League principles. That brings physical training into the ordinary schools, you see, they must be trained for the games. To have success in a particular school, they have to have boys training up for two or three years, consequently you have coming up boys who are kept in the very best of condition. My opinion is, that if you could form in every town, or in every district where the villages could be gathered together, School Associations to govern football or cricket competitions, you would be doing more than one would think in getting children properly trained physically. The same would apply to cricket and swimming. Our experience in Manchester will show you that. We hold in Manchester the national champions—the school-boy championship in swimming, Great Britain and Ireland, open to all boys under fourteen. One of our schools—Abbot Street Board School, in the very poorest quarter of the city—has taken the first three places in the competition in 1900 and 1901, and I expect they will do it again this year. They have seven cups and shields; and when I tell you that out of that district the present amateur champion swimmer and the late amateur swimmer have come, it shows you what a great deal there is in training. The formation of a Schools' Athletic Asso-

Playgrounds. Graded physical exercises.

Marching exercises.

Games for infants.

Playgrounds and open spaces.

Accommodation: grading of exercises.

Special inspector.

Manch... milita... in the playgr...

Organ... games.

Girls': exercis...

Games school associa...

ciation. These I look upon as being extremely valuable. I sent a copy—I have one here—of the Eighth Annual Athletic Sports, held at the Zoological Gardens, Belle Vue, from which you will see what we get—competitions in the various forms. Of course it is a big expense; but that means that in every school in Manchester and Salford for the last month, and up to our next sports, which are on the second Wednesday in July, boys and girls are being tried and trained for the various competitions for which it is possible for them to enter. The effect must be valuable, of course, upon the physical wellbeing of the children.

9380. *By Mr Alston.*—I see you desire to encourage the formation of companies of the Boys' Brigade. That is a very important organisation in Manchester, I think?—Yes; we have two sections there, the Boys' Brigade and the Church Lads' Brigade. We sent 500 up last week to the review by the Prince of Wales, and Manchester was the second place in England, I think, to take up the question of forming the boys into brigades.

9381. It is about nine years old, I think, the Church Lads' Brigade?—Yes; I have a great many of my boys in the Boys' Brigade.

9382. And you find a great advantage in the physical training of the boys?—There is no question about it; you could pick them out in the streets.

9383. You can?—Oh, yes.

9384. Greater smartness?—Very smart; they carry themselves as boys ought to carry themselves.

9385. Do you find they are more polite and respectful?—Yes, I should think they are. Of course in a well-organised school all the boys are to be taught that, but they are smarter and more prompt.

9386. Do you find that employers of labour, such as shopkeepers desiring boys, look after boys connected with these organisations in preference to others?—I have no experience of that. The demand is greater than I can supply at present from my place, and that question has never arisen with me; but I should imagine I should do the same.

9387. Are you connected with one or other of these associations?—Not as an official in any way whatever, but I have followed the movement as an outsider for many years; I have not time.

9388. Which is the second one?—The Church Lads' Brigade.

9389. How many companies have they in Manchester?—I could not say how many companies. They have 2000 boys, I think. Those should be formed in connection with the blocks of schools. You cannot do it in each school, of course, because the boys as they are preparing to leave in the upper divisions could form a Brigade in the upper forms of the school.

9390. Would you not have this difficulty, that the companies of the Boys' Brigade are attached to a religious association?—The Church Lads' Brigade.

9391. I am speaking of the Boys' Brigade always: each company must be attached to a Christian organisation, a church or mission?—A church or mission; yes.

9392. In that way you could not make use of the organisation in connection with schools?—No; but the boys themselves could be encouraged to join one of the Brigades in the district, if you could not join yourself.

9393. The boys in the schools you would encourage to join one or the other of those organisations?—Yes; they are drilled already in Manchester.

9394. Would it be for the sake of the drill you would do so?—For the sake of the boy; it reacts upon him immensely; a very strong moral force on the boy at a critical time of his career, from twelve to fifteen years of age—extremely important.

9395. You have that control over the boy in the school?—Yes.

9396. You think it is a distinct advantage to join a military force after school age?—Certainly. I advise my boys now to do that. May I say in connection with that, to show you—I am in a Jewish district, and the Jewish people have formed a Jewish Lads' Brigade, and very successful it has been. Now, I have advised all my Jewish boys, I have massed them together when they were at drill, I have detached them from the other boys, and advised them to join it, and they are doing so; it makes the boys smarter.

Lads up to eighteen: military training: compulsion advocated.

9397. You would go further, perhaps, and encourage the military drill amongst boys after leaving school up to the age of eighteen?—Personally, I must not in any sense be understood to speak for my organisation, or for anybody else but myself personally. I should go quite up to that, that everybody ought to go through a form of military drill up to eighteen.

9398. Would you recommend that such drill or physical exercise after school age should be compulsory?—I would. It is not popular, but that is my opinion; you must have some form of drill.

9399. Could you get classes filled with boys without compulsion?—I do not think you could.

9400. You have formed that opinion from your knowledge of boys?—In cities; it might in country districts where there is not much to do.

9401. Is there not sufficient attraction in these exercises to bring the boys?—There would be to some boys, but not the boys as a whole.

9402. The mass?—You see they work all day. I am understanding you to mean a compulsory weekly drill, something of that kind.

9403. Say in continuation classes after school age?—Yes.

9404. Your object being that these boys should be well drilled after they have left school?—Yes.

9405. And you think that it would require to be compulsory, because the attraction would not be sufficient to bring the boys?—I do not think it would; it might or it might not.

Breathing exercises.

9406. Then you speak of breathing exercises on the first page; have you had much experience of that form of physical training?—Yes.

9407. Do you consider it very efficacious?—I do; I consider it very valuable.

9408. That is for the strengthening of the chest, the lungs, the heart, the organs in the chest?—Yes.

9409. Have you found any evil effects from its practice?—Yes, where it has not been properly done. I have in one or two cases found that it is possible to overdo it, of course.

Medical supervision.

9410. Have you medical supervision, then?—At the schools?

9411. Yes?—No; we have not. We have just had a medical officer appointed; I suppose we shall have now.

9412. Then in exercise such as that, would you not recommend that the medical man should advise what boys should practise in breathing exercises?—If the teachers were properly instructed, I do not think it would be necessary.

9413. You have found no bad effects from exercises such as these breathing exercises?—In breathing exercises only; I have found that physical training has been overdone as a whole, but not breathing exercises particularly.

9414. Is it from want of skill on the part of the master?—Exactly. I may illustrate it in a simple way. You know the exercise to throw the arm back like that [*showing*]—well, I find even our military instructors allow boys to throw the arm right back like that, right to the end; well, the child feels it right down his back at once, and I have known children very seriously damaged by it. Taking it the ordinary way, just making the force, and bring it forward two inches, where he does not feel it quite the same, I have found children, weak children of course, have been damaged.

9415. Was that under instruction by a skilled instructor?—Not exactly a skilled instructor; a man who had been accustomed to drill men and not children.

9416. Then he was foolish enough not to see the difference, and apply only suitable exercises to children?—The same in the squaring of the shoulder.

9417. That is why I asked about the medical supervision being necessary?—That is what I mean by

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medical supervision being necessary; that is, I mean somebody who thoroughly understands the physical training, and has studied it from a physiological side as well.

9418. Have you worked upon a uniform system of physical training?—At school.

9419. What system have you adopted?—The name or man? In Manchester I have taken a part of Chesterton's drill in my school; but you are speaking of Manchester as a whole, are you not?

Manchester: no recognised system.

9420. Yes?—Manchester has not any recognised system; they have simply military drill; they have taken the military exercises until the appointment of this instructor.

9421. Is that the Aldershot system?—Yes, the old military system.

9422. Is it up to date?—I do not think it is.

System: uniform in essentials; their gradation.

9423. Would you approve of a uniform system of drill in schools?—Not quite. I would approve of the essence being uniform, and after that there should be a gradation suitable to the schools at which it should be carried on.

9424. Would you approve of a uniform system large enough and wide enough to enable you to select portions of it according to the conditions of the classes and of the children?—As a rule I would.

9425. So that all teachers, male and female, would go to the same fountainhead for their instruction, but vary the practice as the class required?—I think for the children I would until the teachers thoroughly understand the exercise.

Games v. physical exercises.

9426. *By Sir Henry Craik.*—I would like to ask two questions arising out of this paper: Do you prefer games to physical exercises in schools?—Yes.

9427. You describe yourself as against a uniform system in this paper?—A uniform system of what?

9428. Of physical exercises?—I do not quite understand that I do.

9429. Yes; once or twice you say 'it is almost 'uniform, and the good becomes minimised'?—I am speaking about the exercises that are just taken to relieve the monotony.

9430. Quite so; you prefer games to physical exercises?—Yes, I do. I like both, of course, but of the two I should prefer games.

9431. In this paper you state distinctly that games are preferable?—Yes.

9432. Do you know that there are certain dangers in the games, undue competition, with the effect of pushing the weaker to the wall?—In a game?

Games: dangers.

9433. Yes, that there are such dangers?—No, I do not think so.

9434. How would you answer this, on page 8 of your paper? 'From Leeds,' you say, 'there has been 'a genuine physical improvement in the health of 'several boys, one parent begging that her son, who 'had been left out of his school team, might be re-'placed.' Does not that show that weaker boys are apt to be pushed aside?—Only from the team, not from the games themselves; that is from the eleven; that must always happen in any school.

9435. Looking again to page 10—'an admiration 'among the scholars for their athletic champions, 'equal to their respect for the school scholarship 'winners.' Will not that be apt to produce a rivalry, and give the advantage to the specially athletic, who would push the others aside?—I do not think so.

9436. Then you think that medical supervision is not necessary in regard to games, where there are such?—We have never needed it.

9437. You never required medical supervision?—We never had a medical man on the staff.

9438. You do not think that the games, as described by you in the paper, might now and then lead to something of professionalism or undue excitement, which might not altogether be healthy for boys?—It might in a single case or two.

9439. Do you think it is very desirable that you should have, for instance, an annual festival at Sheffield for the boys, visited by thousands of people, parents and friends of the children? Again, I will read further on, at page 13: 'The number of entries was 'very large, and the number of spectators exceeded '20,000.' On page 16, that in 1897 the final tie was played before one of the largest concourses of people ever gathered together, over 60,000, at the Crystal Palace?—Yes.

9440. Do you think that is altogether desirable for a boy?—I do not see what harm it can do.

9441. You do not see any harm?—I think the very object of the game is that it is not playing for——

9442. You would admit that amount of competition?—That is not competition in that case.

9443. Without medical supervision?—Yes, I think in our own schools.

9444. *By Sir Thomas Coats.*—In following up the questions Sir Henry Craik has put to you regarding these games, I would like further to ask, do all the children in your schools take part in games?—Not in football.

9445. No, but in the other games?—You mean games of cricket and football?

9446. Are there not many children who are unsuited for playing games either from want of physical strength or because their minds do not lie towards playing games; is there not a number of children of that kind in the school?—Yes, we have, and some of them are too young to take part in organised games.

9447. I do not talk of the too young, but those of suitable age to play games, who for some reason or other, either from want of physical strength or that they have not an aptitude for games, are rather left out?—They cannot join in them of course, everybody.

9448. They do not get the same attention in physical training that the others do, and they are the very children, I should say, who most require that physical training?—They get the physical training, then, in the physical exercise taken in school; we do take both.

9449. But then you say you place more dependence on games than physical exercise; therefore these boys who are able to enter the first eleven in the cricket or the football elevens get this additional training in the games that you have laid stress upon?—Yes; they are the team of the school, but they are not the only boys who play football. There are games in the various classes, of course, besides.

9450. But do those play?—They play class against class; but the team that is spoken of here as appearing before the people are the specially selected team; and in the case of the last question, teams representing the whole city were only eleven boys out of the whole of Manchester, for example, or the whole of Liverpool would be taken; but more boys than that play, of course.

9451. All the boys take part in games—that is, all those who are physically capable?—Physically capable, yes; above Standard III., say.

Games no compulsor but physic training a given.

9452. Do you make it compulsory?—Oh, no, we do not make it compulsory, but still they do; and in the training for it, preparing the boys to stand the endurance, they all take the running exercise. I very often take them round, twice round, our yard; we are well off in that respect; then three times, then four times; and they have that duty for weeks to give them wind.

9453. *By the Chairman.*—I think Sir Thomas Coats rather meant whether it was compulsory on boys to play games?—It is not compulsory on them to play games.

9454. If a boy likes to shirk, and not to play, he is able to do so?—Well, we should not force him to play, but we should give him some sort of physical training.

9455. *By Sir Thomas Coats.*—I will just explain what I wish you to answer further: Do you consider that there are any children in the school who do not get an adequate amount of physical training because they are not inclined to take part in games, or otherwise are physically unfit to do so?—There would be if there were no physical exercises undoubtedly taken, in addition to the games.

9456. Yes; but I rather gather from what you say here, you depend more for physical training on the games than upon the actual physical training?—I did not mean to say I would not take physical exercises in addition.

9457. I do not think you quite understand what I mean. What I want to get at is this: Has the fact that you place so much stress upon games—and games are so much played in your school—the effect of extra training a number of boys and leaving a number of boys who would perhaps shirk games to have less training, although these very boys may require it more from want of physical development?—That may be, but, of course, the work we do is additional, and voluntary; you must understand that.

9458. Just one other question. We have had evidence in regard to the playing of games. One witness said that he quite believed in physical drill, but he objected very much to the extent to which games were now carried. He said that among his boys—his apprentices, who worked with him—they would run away to football matches on every half-holiday, and that it had a bad effect on them; they got too fond of running after football matches and things of that sort?—Professional matches every week. Well, I have heard that; but speaking from my own experience in Manchester, I do not see——

9459. It is from the boys' point of view, you see, I want it?—Yes; I daresay boys may be so lacking in what is their duty, that they think it is better to run to see a game than stop and to do their work, but I should think it is dying down very much.

9460. It is not in the North?—Well, I am speaking of Manchester.

9461. I refer to Scotland?—Football matches used to attract in mid-week about 10,000 people, and now I do not think they attract more than 2000 or 3000. *Mr G. Sharples.* 20 June '02.

9462. *By Mr Shaw Stewart.*—Of course you have had a great experience of teachers. Do you think that if all the teachers were obliged to go through a course of physical training while they are at the Training Colleges that would have a very good effect on their physique and on their health in after-life?—I should think it would. Training of teachers.

9463. *By the Chairman.*—Only one question as regards jumping: you recommend jumping for children in schools as an exercise?—Yes. Jumping.

9464. Is this during the school time?—In part of the physical exercise.

9465. During the school time?—And in the playground it should be recommended, the old style of jumping.

9466. Now what I want to ask you is this: Have you time in your school curriculum to ensure that each child shall be separately trained to jump?—In the Manchester scheme it is provided for—a leaping in the process as they march.

9467. Who regulates the Manchester scheme?—The new instructor, Mr William Clarke, has devised a scheme where that is a part. Manchester scheme.

9468. The inspector?—No, the physical instructor to the schools; and a very fine exercise it is.

9469. This instructor has recommended it for all the schools in Manchester?—He has put it as part of his scheme for the children at the latter end of their training; that is, when they get into the upper standards; that is one of the main exercises.

9470. That is taken into the curriculum?—It is part of the ordinary hour we spend in physical exercises by the Code.

The witness withdrew.

The Rev. JOHN SMITH, B.D., examined. *Rev. J. Smith, B.D.*

9471. *By the Chairman.*—You are the Chairman of the Govan Parish School Board?—I am, my lord.

9472. And have been so for how long?—Well, two terms as chairman; but I have been eleven years on the Board.

9473. You have kindly sent us in some notes, and also a copy of the Govan Parish School time-table for military drill. May I ask who has arranged that time-table?—It was arranged by the drill instructors, with the help of the clerk of the School Board and the headmasters as well.

9474. And with the approval of the inspectors, I presume?—Well, yes, I think so; it must be.

9475.—Please begin reading your notes?—The population of the district under the jurisdiction of the Board, as per last Census, was 207,712. There are twenty-five public schools, with accommodation for 29,748, and there were on roll in the month of April 1902, 29,033, with an average attendance of 25,000. The number of scholars who were under instruction in physical drill during the month of April was 14,323. Physical exercises begin in the infant room, and are accompanied by music, a piano being provided for the purpose in each school. They are continued throughout the school in a graduated course, and are given to both boys and girls. The drill is conducted in the school playgrounds, but in wet weather the covered play-sheds and central halls of the schools are utilised. The following is the course of instruction usually followed:—

Infants.—Bells, expanders, free exercises.

Classes I. and II.—Dumb-bells, expanders, free exercises, turnings.

Classes III., IV., V.—Boys: Squad drill, dumb-bells, free exercises. Girls: Wand drill, free exercises, expanders, dumb-bells.

Class VI.—Boys: Dumb-bells, singlestick, free exercises, squad and company drill. Girls: Dumb-bells, ring drill, free exercises, expanders.

Secondary School.—Boys: Dumb-bells, singlestick, Indian clubs, squad and company drill. Girls: Dumb-bells, bar-bells, ring drill, free exercises.

In one school there is a gymnasium, which is utilised for the boys of Class V. and upwards. Exemption from attendance at these exercises is only granted to pupils who are certified (medical certificate) as physically unfit to take part in them. In most schools military drill, as distinguished from other physical exercises, is introduced at Class III. The Board have given special attention in their schools for many years to the subject of physical training, and, as showing the efficiency reached in this branch of school work, it may be permissible to quote from H.M. Inspector's remarks on the subject in the annual reports of the Scotch Education Department. In the report for 1890–91, H.M. Inspector, speaking of physical education in the district, including this parish, says—'Physical education, I am glad to say, has become a marked feature in the district, in increasingly full and systematic courses, based on good text-books, which are now numerous, practical, and cheap. In some schools the exercises are given with very great success, and many managers have well provided the requisite apparatus in dumb-bells, wands, ropes, and the like, rightly including text-books for the teachers' guidance in the various exercises, which, to be healthy and effective, must be physiologically correct.' In the report for 1891–92, H.M. Inspector writes—'In 'all schools they (singing and physical exercises) are now 'more or less utilised; in most very fully even in the 'rural districts; in many, especially in Govan, in a 'thorough and systematic manner, which is its own re-'ward, proofs of the efficiency attained being given by 'public exhibitions largely attended by parents and 'friends, Hillhead School standing pre-eminently first in 'this direction. Indeed, physical education has gradu-'ally become an integral portion of the school work in 'this district in a systematic course. . . . In many 'schools the results achieved are surprisingly good and H.M. Inspector's reports.

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'attractive, and their admirable renovating and training 'effects are yearly securing their extension and improve-'ment.' In the report for 1897–98, H.M. Inspector states—'Drill in some form or other finds a place in the 'routine of every school in the district. In Hillhead 'Public School, and in several of the other large schools 'of the Govan Board, the teaching of this branch is 'carried out with a skill and thoroughness that are 'beyond all praise.' The Board employ three drill instructors, who are all ex-Non-Commissioned Officers of the Army. These teach in twenty-two schools; in the other three schools the instruction is given by the janitors, who are also ex-Army men. The time per week given by the instructors to the work varies from two and a half to six hours, according to the size and character of the school. See time-table below:—

Instructors.

Time.

are about 200 former pupils of this school in the Volunteers, and that between forty and fifty old scholars have taken part in the South African War. The Board have provided large and admirably-constructed swimming baths at six of their schools, each of these forming a centre for a group of schools. Three of the swimming baths are 75 feet long by 30 feet broad. Boys and girls attend these baths, and there are male and female instructors. The children attend in classes at fixed hours. During the year ended 28th June last 2167 children (1327 boys and 840 girls) attended the baths. The number of these who were able to swim at the beginning of the year was 271 boys and 26 girls. At the end of the year 681 boys and 135 girls could swim, showing that 410 boys and 109 girls had learned the art during the year. It may be mentioned that

Swimming baths.

GOVAN PARISH SCHOOL BOARD.

Time-Table for Military Drill.

School.	Drill Instructors.		
	D. Batchelor.	T. Ritchie.	J. Bennett.
Polmadie	...	Tuesday, 1.30—4	...
Calder Street	...	Monday, 1.30—4	...
Govanhill	...	Tuesday, 9.30—12.30	...
Strathbungo	...	Monday and Friday, 9.30—12.30.	...
Albert Road	...	Thursday, 9.30—12.30; Friday, 1.30—4.	...
Kinning Park	...	Wednesday, 1.30—4	...
Rutland Crescent	...	...	Thursday, 1.30—4.30.
Lambhill Street	...	Wednesday, 9.30—12; Thursday, 1.30—4.	...
Lorne Street	Tuesday, 9—12.30	...	...
Bellahouston Academy	Friday, 9—4	...	...
Copeland Road	Tuesday, 1.30—4.30	...	...
Broomloan Road	...	...	Tuesday, 10—12.30, 1.30—4.
Harmony Row	...	...	Friday, 9.30—12.30.
Hill's Trust	...	...	Monday, 1.30—4.15.
Fairfield	Thursday, 9—12.30, 1.30—4.	...	...
Elder Park	...	...	Monday, 9—12.30.
Whiteinch	...	...	Friday, 1.30—4.30.
Thornwood	Monday, 1.30—4.30	...	...
Rosevale Street	Monday, 9.30—12.30	...	...
Hamilton Crescent	Wednesday, 9—12.30, 1.30—4.30.	...	...
Dowanhill	...	...	Wednesday and Thursday, 9.30—12.
Church Street	...	...	Wednesday, 12—12.30, 1.30—4.

Taught by Janitors.

Pollokshields	Daily (except Friday), 3—4; Monday and Friday, 9.30—10.
Stewartville	Monday and Friday, 1.30—4.30.
Hillhead	Daily, at various hours

Apparatus.

The apparatus provided by the Board consists of dumb-bells, bar-bells, Indian clubs, calisthenic wands, rings, musical bells, singlesticks, etc. Some of the schools have provided themselves with rifles, and in some others the pupils have provided themselves with chest expanders. In connection with the Hillhead School, a cadet corps has been formed, and attached to the 2nd Volunteer Battalion of the Highland Light Infantry. Pupils from twelve to sixteen years of age showing proficiency in school drill and physical exercises are eligible for enrolment, and the strength is at present seventy-seven. It may be mentioned that there

Cadet corps.

boys who received all their instruction in swimming in these baths have been successful in gaining medals and prizes in open competitions in the public baths of the city. An annual swimming competition is held under the Board's auspices, at which four presentation challenge cups, medals, books, and other prizes provided by private subscription, are competed for. The baths are open for children during the summer holidays, and are largely taken advantage of during that period. Last summer holidays there was a daily average attendance of 194 boys and 46 girls—the total admissions being

36,238. A charge of one halfpenny each is made for admission during the holidays.

9476. *By Sir Henry Craik.*—You say there are 25,000 children in average attendance at your schools?—That is so.

9477. In the next paragraph you say that 14,323 were getting physical exercise; what happens to the rest?—There are some of them at their classes during the time. The 14,323 is the number of scholars under the special instruction of the drill instructors; the other 10,000 or thereby receive physical drill from the teachers, so that all the scholars, except those physically unfit, get physical drill.

9478. Then they do not have any opportunity?—I think most of them have an opportunity in one way or another.

9479. Yes, but only 14,000 out of 25,000 get it?—Yes, that is so. The other 10,000 receive their physical drill from the teachers.

9480. Is not that rather a serious admission?—We ought to have certainly more.

9481. Turning to your time-table, I find that in certain schools a good deal more time is given to it than in others. I should like you to look at these. I put first the Bellahouston Academy; it has seven hours?—From nine to four.

9482. Bellahouston Academy is a fee-paying school, attended by a pretty good class?—That is so.

9483. Albert Road has about nearly six hours; that also is a good school, I think?—That also is a good school.

9484. Fairfield is a good class of school also?—No, it is not; it is a free school.

9485. A free school?—Essentially working class.

9486. But pretty well to do?—Well, mechanics and engineers and riveters.

9487. Hamilton Crescent school has six hours; is also a fee-paying school?—Also a fee-paying school.

9488. And attended by very well-to-do children?—Very well-to-do children, yes.

9489. Can you point out one of the very poorest schools in your list?—Stewartville.

9490. Any other?—Well, Whiteinch is very much mixed.

9491. What I am driving at in this is, is it not the case that the opportunities for physical drill are rather more abundant in the better-class schools than in the poorer?—I think that is so.

9492. And probably those 10,000 or 11,000 who are getting none of it, are chiefly in the poorer schools?—Well, a large number are. Of course it is owing to the time-table; there is a difficulty in the time-table in getting all the scholars.

9493. But why should that difficulty prevail rather in the poorer schools than in the well-to-do?—I suppose there is slightly more liberty in the other schools.

9494. Have you any medical supervision over the pupils in your schools?—Well, doctors, you know, set apart for districts. We have a doctor in the Partick district, and a doctor in the Govan district, and a doctor in the Pollokshields district.

9495. What are his duties?—More in the case of teachers than in the case of scholars.

9496. But has he any duties with regard to scholars?—None whatever.

9497. Do you not think that it would be a good thing that in connection with this physical training there should be some medical supervision or inspection of the scholars?—I think there ought to be.

9498. *By Mr Shaw Stewart.*—In your preliminary note, you speak of the physical training based on the text-books; could you give us an idea as to what text-books are used?—Well, we have instructor Walker, who is the janitor and instructor in Hillhead School, the author of two or three capital text books which are very much used in our schools. He is also the instructor of the cadet corps.

9499. And Chesterton's is that used?—I am not certain; Walker's, I know, are very much used. They are beautiful little books; I am sorry I have not a copy with me here.

9500. What I wanted rather to get at was whether the Board approved of any particular system, or if they allowed any school to take what text-book they preferred?—I think we allow freedom in that respect. Sergeant Batchelor, I expect, will perhaps have his own text-book.

Uniform system desirable.

9501. Do you not think it would be a good plan to have the best text-book decided upon and acted upon?—Oh, undoubtedly.

Swimming.

9502. Then with regard to the swimming, does this take place out of school hours?—It is taken sometimes out of school hours; sometimes during school hours. During school hours we always send a teacher with the scholars to the bath.

9503. And do all the children go through the swimming classes?—I think most of them do; a great many of them do; not all.

9504. And what would be the exemptions except medical exemptions?—I think nothing except the medical exemptions.

9505. Practically they all get it?—Yes.

More physical training desirable.

9506. I know Kinning Park district very well, and of course we all know that there are no open spaces in it at all; I see that physical training there only takes place once a week, from 1.30 to 4; I suppose you would agree that if it were possible in such closely confined areas the more physical training the children get the better?—I am strongly of that opinion. I think we ought to give more in several of our schools than we do.

9507. Do you think that a certain amount of mental training should be dropped out in order to bring in more physical training?—Well, I do not think there should be much necessity for dropping the mental training. I think it is possible by an an adjustment of the time-table we might get more physical drill.

Physical training for all in open-air advocated.

9508. *By Sir Thomas Coats.*—Would you not advocate that the whole of the children should get physical training? As Sir Henry Craik has pointed out, there are about 10,000 who apparently during this month have got no physical training?—Oh! I think if it is possible all should have physical training—physical drill. Of course, they all get it in the Infant Department; there is no one exempted there, because it is all done in the class-room. But I should prefer to have the drill, if at all possible, in the open air in good weather. We do that with boys in the IV., V., and VI.; they are all in the playground, squad drill; and Company drill, boys of the VI. and above; boys of the III., IV., and V. get squad drill.

9509. But I think this is the first witness we have had in regard to Scotland where all the children were not getting physical drill, except those who were physically unfit?—Yes. All the children attending school receive physical drill. The number 14,323 refers to those who are under drill instructors; the rest, 10,000 or thereby, receive physical drill from their teachers.

Time.

9510. Then you give the time that is devoted to each school for physical drill under the different instructors; can you tell me how much per week each individual child would have; that is, those who take it?—Well, I would rather have difficulty.

9511. It is in the time-tables of the different schools?—It ought to be, but I am not quite certain.

9512. Would it be more than half-an-hour per week, do you think?—At least half-an-hour per week.

9513. But not much more than that?—Some will get much more than that, I think.

9514. Do you not think one hour and a half could be given quite well without interfering with the other work?—Well, I think if it can be done it ought to be done. I feel the importance of it, and the growing importance of it.

9515. We have evidence that a good deal more is given in some schools, and the schoolmasters say it is done with very beneficial effects to the book learning?—I am sure our Board will heartily enter into any school scheme whereby the time for physical exercises will be increased.

Rev. J. Smith, B.D.
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9516. You say that a number of valuable prizes are given for swimming competitions; are these open to all the children in the Board Schools?—We have district competitions, and they are open to all the children. On the south side of the river the most of the competitors hail from the south side of the river.

9517. The better class of schools?—No; all schools under the Board. We have another competition on the north side, some of the Hillhead boys and the Hamilton Crescent boys come to the swimming to compete.

Time.

9518. *By Mr Alston.*—The time given, you say, is two and a half to six hours per week for physical training?—Yes.

9519. Do those children that are under physical training get that amount of time, from two and a half to six hours per week?—They do not get that, not each individual child.

9520. It sounds a little like that, and we were very much struck with the small time that is assigned for physical training in each school. It has been as low as twenty minutes in the week, I think, and seldom above an hour a week?—You see it depends on the weather; the number who are under control at the time; we cannot take all the school at one time.

9521. Could you say how much time per week each child could get?—Oh! I should say at least half an hour, so far as I know.

9522. And you think that is not sufficient?—I think we ought to have more if possible.

9523. How far would you go?—I should say double that if possible.

9524. I think your Board has been noted for attention to physical training in schools?—Yes.

9525. At least an hour a week you would advocate for each child?—I think an hour a week.

9526. While only 70 per cent.—the other 30 per cent. receive physical drill from their teachers—are under training just now, you think the 100 per cent. should be under training?—Yes, except those medically unfit.

9527. There is nothing sacrificed in the other parts of the curriculum in favour of physical training?—I do not think so.

9528. We have heard that the Hillhead school in these public displays has made a very good appearance, and that there has been a very large attendance of the public?—We have. Yes.

Military drill.

9529. Is the drill and the display given there what you would call a fancy demonstration?—Not at all; we have regular military drill. The last exhibition we had, we had the cadet corps present.

9530. I was going to ask first about the physical training, that is to say, the movements on the floor?—Well, they are not fancy.

9531. The instruction is so thoroughly good, whatever is exhibited to the public is a genuine display of physical exercise, as it should be, in the interests of the pupil, not in the interests of an admiring public?—That is so; it is useful.

9532. Have you ever thought that the use of music in accompanying these movements is detrimental?—I am not sure that it is; I would not say that it is.

9533. Have you heard it stated that music is a very great danger unless you have thoroughly grounded the child first in the exercises, and then applied music as a means of making the movements easy and graceful?—Of course the physical exercises in the infants' room are sometimes done without music.

9534. You have not found that it is a defect sometimes, that these public displays before parents are much more a musical exhibition in movement and time than an actual demonstration of what physical training should be in the interests of the schools?—Well, I do not think so. The public displays serve both purposes. They have those two objects in view.

9535. Then the other point about military drill as distinguished from the other physical exercises: you make that a speciality; what kind of military drill is that?—The squad drill, company drill, forming fours.

Toy rifles: of no advantage.

9536. But in some schools you speak of the use of rifles?—They have rifles very much like the Boys' Brigade rifles.

9537. A dummy?—A toy.

9538. And by what classes of the children are these rifles used?—I do not think that rifles are in use at the present moment, but in one of the poorest schools in Stewartville the head-master has got permission to purchase rifles. We are not supplying them from the Board, but he is supplying them himself.

9539. Now, what is his object in wanting rifles?—He thinks, at least he does not think so, but the instructor, the janitor, who is an ex-army man, thinks the rifles would serve some purpose; I do not think myself that they serve very much purpose.

9540. Does he want to give them manual or firing exercises?—Oh, nothing of the sort; they are simply toy rifles.

9541. But you can get manual exercise beautifully with a toy rifle?—But not out of the Boys' Brigade rifle.

9542. Brigade Boys are often perfect at the manual and perfect at the firing too?—I have heard from several volunteer officers that they are very little use. Sergeant Batchelor is very strongly of opinion that they should not use any toy rifle.

9543. Then what do you want those rifles for? Is it instead of dumb-bells?—Yes, instead of dumb-bells or bar-bells.

9544. You do not see the advantage in their use?—No.

Instruct

9545. Then as to the army men as instructors, have they been long out of the army as non-commissioned officers?—I think Batchelor is several years out. He used to be drill instructor at Dumbarton in connection with the Dumbarton School Board School, the Academy in Dumbarton. We got him from Dumbarton.

9546. And what is the source from which they get their drill; is it Aldershot?—I think Batchelor drilled thoroughly, and he studied the whole system of drill.

9547. Do they keep themselves up to date?—Batchelor does.

9548. We have had it put that it is a necessity to go back to Aldershot to refresh themselves?—Batchelor is a thoroughly up to date man, so far as I know.

9549. And the janitors are also very efficient instructors?—I think so.

9550. Both in physical training and military training?—In physical training and military training. Walker, if I remember rightly, was connected with the band in the regiment to which he was attached, and he set himself to study physical drill as well as military drill; and now he is the instructor in our cadet corps, and does it thoroughly.

Cadet co uniform.

9551. What is the uniform for the cadet corps; what does it cost?—It is khaki.

9552. And will cost?—About thirty-two shillings, all told.

9553. That expense is met by the parents, I suppose?—That expense is met by the parents.

9554. And there is no objection on the part of the parents?—Not the slightest objection; most enthusiastic.

Military no objec

9555. In connection with teaching boys military drill in any shape, is there any objection on the part of the public?—Not the slightest, so far as I know. I think our Board are almost unanimous.

9556. You have not taken up the attitude, then, of the Glasgow School Board?—Oh, far from it.

9557. You do not see eye to eye with them in this matter?—No.

Militaris

9558. What about the fear of militarism?—I think it is perfectly absurd; I can see no danger whatever.

9559. There has never been any objection on that account?—Oh, not the slightest.

9560. *By Mr Shaw Stewart.*—Could you furnish the Commission with copies of Walker's text-book?—I shall be delighted to do that.

9561. Perhaps you will be good enough to send them to the Secretary?—With pleasure.

The witness withdrew.

Mr JOHN CASSELLS, examined.

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9563. *By the Chairman.*—You are Vice-chairman of the Govan Parish School Board?—Yes, my lord.

9564. You have been connected with the School Board for a long time?—Eleven years.

9565. And have taken a great interest in the physical education of boys and girls?—Yes, my lord, of boys and girls.

9566. Will you kindly run through your notes?—My views on the subject of physical training and military drill are based upon the experience gained from thirty-five years' service in the volunteer force, and on an experience of eleven years as a member of the Govan Parish School Board. During the years I have been a member of the School Board, I have devoted special attention to the physical training of the pupils and their instruction in military drill, and I am convinced that the regular and systematic training in physical exercises which the Board have provided in all their schools has been in the highest degree beneficial. Not only has it helped the physical development of the pupils, but its effect in the habits of discipline, respect and obedience it has assisted to form, has been distinctly salutary. Its influence can be seen in our schools in the greater smartness of the lads and girls, and in their improved bearing; indeed, the same effects are still visible long after they pass from school. I am in favour of more rather than less time and attention being given to the subject in our schools. I am of opinion that the physical exercises begun in the youngest classes, followed by and coupled with the military drill given to the older scholars, should lead up to a system of national training in the essential elements of preparation for national defence among our young men. Every man, in my opinion, should be taught how to take part more or less effectively in the country's defence, and I am of opinion that the foundation of the training required for this should be laid in school. The drill begun in the school should be carried on in cadet corps, in boys' brigades, or in continuation classes, until the lads are old enough to join the Volunteers, or to undergo whatever further military training might be prescribed. This can be done without conscription; indeed, something like this is necessary to obviate the need for conscription. I would impress upon the boys in school that some measure of fitness to defend the country should be demanded of every man; that the drill they were being taught had this as one of its objects; the patriotism of the boys would be thus appealed to, and the subject would be invested with a new interest for them, which might induce them to carry on the training begun at school until they had reached some degree of serviceable efficiency in it. All the time they would be deriving real physical and moral benefit. Their bodily strength would be developed, while at the same time they would be forming habits of steadiness, obedience and self-reliance. In short, physical training which embraces light gymnastics has only a personal or individual advantage, whereas combined with military training it has a national or imperial advantage which cannot be overestimated.

9567. *By Mr Shaw Stewart.*—You say that the drill taken in the school should be carried on afterwards in cadet corps, boys' brigades, or continuation classes. On the point of the continuation classes, are you prepared to suggest that attendance at these should be compulsory?—Well, in connection with the continuation classes, I am not so strong on these, because the classes are made up of youths, elderly boys, and girls who are engaged in business, and when they attend their evening classes perhaps three nights per week, the other three nights you cannot just lay down a law for them. But they do not remain long at the continuation schools; it is only very few who do, and it is only the very few that attend continuation schools.

9568. When I use the phrase 'continuation schools,' I mean not only schools for mental training, but for physical training too. I am supposing that a scheme might be devised for giving physical training at continuation schools, and I would like your opinion, if that were so, as to how we could get the boys to come into them. There are two ways of doing it; one is by making it compulsory—making every boy between the age of fourteen and eighteen attend them; and the other way is to make them so attractive that the boys will come of their own accord?—I think that is the proper way to do it. Attraction preferred.

9569. Make them attractive?—Make them attractive.

9570. Then I gather from your paper that one of the attractions that you would hold out to them would be learning to shoot with the rifle?—Certainly, at that age. Rifle shooting.

9571. That might attract the more patriotic boys, but would it attract the lazy and the idle?—I think it would be well to press that class a little; if they cannot see their way to fulfil their duty, they ought to be pressed forward to it.

9572. There you leave the attractive view, and you at once enter on the compulsory system?—Well, my experience is this, that with all those that I have seen connected with the volunteer movement, they are not long until they take a great interest in it; to the great majority of those who have become volunteers the work becomes attractive of itself.

9573. Yes; I quite understand that with the better disposed boys; but you see we have to pay quite as much attention, if not perhaps more attention, to the least well-disposed boys after they have left school?—Yes; well I believe the influence of military drill and military influences on that very class is one of the best for raising them out of that sort of condition, if you like to go as low down as the hooligan.

9574. We must pay attention to them?—Well, there is nothing I know will lift that class of people up to a sense of duty and a sense of self-respect like military discipline and drill. I have long years ago come to that conclusion.

9575. Do you think that the elementary training for military purposes should be taken during school age, or should that come after they have left school?—I think it should commence with the school. Elementary military drill during school age: reasons.

9576. With the school?—If I can be allowed to give an opinion, I would give you my reason for it.

9577. Please?—We educate our boys and girls to come forward in course of time to take up the position of carrying on the affairs of our empire. We ought, at the same time, to teach them that there is a duty attached to them which will come in the ordinary course of events, and that is the protection and defence of those interests; and I think the teaching of one ought to go steadily on with the other from school days.

9578. You are aware, of course, that there is a certain strong feeling in the country against what you are advocating?—I am quite aware.

9579. And which we cannot ignore?—Yes.

9580. Have you any answer to make to the objection raised by those who object to fostering what they call the military spirit at school; have you any answer that you would suggest to us by which we could meet that objection?—Well, I have not one single doubt in my mind on that question. I consider it is the duty of every person who lives under British authority to respect that authority, and be prepared to support it. It is their duty as citizens. There is nobody likes war; everybody would like to avoid it if possible; even soldiers say nobody has a greater horror of war than they have; but it has got to be met, and we must be able to meet it, if our country is to hold its position in the world—the position which it has worked so hard to occupy; so we must all, every man, be prepared to defend it. I would say that I hope the day is far off when our country is to be governed by sentimentalists. Military spirit.

9581. *By Sir Henry Craik.*—You are, besides being a member of the School Board, an employer of labour, I think?—I was, but am retired from business.

9582. From your experience as an employer of labour,

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do you think that this further training that you desire would be for the advantage of these young men, and also for the advantage of the work they have to do?—I have no doubt in my mind upon that point either. Militarism introduced into business has a most salutary effect. It teaches men how to be at their posts and to stand by their duties. Wherever you meet in any public work a man who has been a soldier you will find him as a rule attentive to his duties, possessed of self-respect, and at all times a man that knows how to carry out his orders.

As employer of labour advocates military training.

9583. And as an employer of labour you were glad to have your employees in the volunteer force?—Distinctly.

9584. One other point: you are also a Director of the Athenæum in Glasgow?—Yes.

Glasgow Athenæum: gymnasium.

9585. That has a great combination of continuation classes?—Yes.

9586. For the really energetic and intelligent youth of Glasgow?—Yes.

9587. A department of these, and a very well developed department, is the gymnasium and physical exercises?—It was, but we gave up the gymnasium about a year ago.

9588. I am very sorry to hear it, because I went through it with great admiration?—So am I.

9589. And was it because it was not attractive?—It was a very heavy charge on the Athenæum.

9590. But there was a large number of pupils?—That is so.

9591. It was not from want of pupils, but from the expense?—Most of our volunteer regiments have got their gymnasia, and there are many opportunities now afforded for gymnastic exercises. When the Athenæum commenced it was about the only one in Glasgow.

9592. That shows that while there was a want of this for the better class you did provide it at the Athenæum, and you have dropped it only because there are other opportunities for them?—Other opportunities.

9593. But still, for the lower class, it would be very desirable indeed?—It would be very desirable.

Public gymnasia.

9594. And might be well provided for at the public expense?—Yes, that is so. We have one gymnasium in connection with one of our schools—Bellahouston Academy.

9595. You say you devote special attention to the physical training of the pupils in your schools; but have you observed that it is rather further advanced in the well-to-do schools than in the poorer schools of the district?—Yes, that is so.

9596. Have you any remedy to propose for that?—We hope very soon to be able to introduce more advanced military instruction to the higher standards in the poorer schools; we are working in that direction just now.

9597. You have had your attention called to the lack of it there?—Yes.

Military drill and physical exercises.

9598. *By the Chairman.*—I think you said that you hoped to give more military drill; did you mean military drill, as different from physical exercise in the lower schools, when you said that to Sir Henry Craik?—The ordinary physical drill, my lord, simply.

9599. Just please answer the question. When you answered Sir Henry Craik just now, did you mean military drill as distinct from physical exercise?—Yes, my lord.

9600. You did not mean that more physical exercise would be given to these poorer children?—Not more than would be given to any other children.

9601. But although you admitted to Sir Henry that the children of these poorer schools had not as much physical training as those of the better-class schools?—Well, if we take Hillhead School, we have a cadet corps in connection with that; we have that in connection with no other of our schools, but we have the question of cadet corps before us, and of course we will promote these as far as we can without interfering with the mental study or culture of the children of these schools. We will guard against overdoing it.

9602. You have not yet quite answered my question?—Well, I will be very glad to answer it.

9603. The question I asked you is: You say you propose to give increased physical training to the poorer schools; I want to know, is that increased physical training to be physical exercise, or is it to be military drill?—Military drill, my lord.

9604. And not physical exercise?—Oh yes; the two go together.

9605. Not entirely. Of course I do not quite know how you define military drill?—Well, I shall define military drill as squad drill and company drill. That is about as far as we can carry it in a school.

9606. And further than you can carry it really inside very often under cover?—Well, we have facilities for carrying it on under cover; we have playing sheds in some of our schools. The ground area of some of our schools is an open space. In others there is a gallery round the schools, with a large hall in the centre.

Interv physic trainin during study.

9607. May I ask you whether it is the custom for the children in any of these poorer schools, in the middle of what I call their mental instruction, to be relieved now and again with a little physical exercise?—Oh yes, that is done in our schools regularly.

9608. And such physical exercise, is it what we call physical training, or is it military drill?—Well, you may call it physical training. It is more a cessation for a minute or so from their studies to give a little chest expansion, or something like that, to waken them up and start them afresh again.

9609. You still tell me that you do not propose or hope to add to that in the poorer schools?—We intend, of course, so far as the military part of it is concerned with the senior boys, to carry squad and company drill as far as they can be carried, and when it is possible to raise a cadet corps in connection with the school; and as far as I can see in the meantime, it is only practicable to raise cadet corps in connection with schools of the higher class. We have not tried it in any of the poorer schools yet, but if we can see our way to do so, we shall do it with pleasure.

9610. And the reason would naturally fall to be that of expense?—Well, there would be a little expense connected with it.

9611. If I could put it to you that, if you were to increase your physical exercise as apart from military drill, could that not be largely done at very little expense at all?—It could be done at very little expense, because the uniforms are cheap and the dummy rifles cost very little money. Some of our schools have the dummy rifles already.

Phys instr given pupi

9612. *By Sir Thomas Coats.*—We have had some evidence regarding the physical training in the Infant Schools, but I do not know whether we quite understood the matter. The evidence is, that, with an average of 25,000 pupils, there are only about 14,000 who get physical drill. I wish to know, is that the case, or does that mean that there are only 14,000 who get regular military drill; but do they all get physical drill?—They all get physical drill from the infants upwards.

9613. In all the standards?—But the physical drill in the infants, which are our largest departments, is of the very simplest character.

9614. But I would like to ask, do you give physical drill in all the standards in all the Govan schools?—Every one of them.

Cont clas perc atte

9615. We were under a misapprehension in regard to that. Then I would ask you again, you have a great many apprentices in Govan in the different shipbuilding yards and other places. Well, do most of these apprentices attend evening classes, either ordinary continuation classes or technical classes?—Well, as far as my experience goes, I have come to the conclusion that there are not more than 25 per cent. of our youths go to evening schools or any other classes after they leave school. There is about three-fourths, not less than three-fourths, of them require something like military exercise or otherwise to employ themselves with in the evenings.

App Loc

9616. But I was rather asking what proportion of

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the apprentices go to evening schools?—I could not answer how many.

9617. I think you said that one objection to having much physical drill in evening schools was that they were tired; those who had worked during the day were too tired to take much physical drill?—That might be.

9618. I think you said so?—Well, I hardly went quite that length.

9619. In point of time?—In point of time, and they might have other means of occupying themselves during other evenings of the week.

9620. Yes; but do you not think that, in connection with the classes, with the hours that they do attend evening classes, you might devote a portion of that time to physical drill?—I do not think it could be very well done on the same evenings as they attend their classes, because if they leave business at say six or seven o'clock, by the time they go home and have tea, and turn out to a class at eight o'clock, and in the school till about ten, there is very little time left for either military or physical training after that; but they have other three evenings of the week; they are three evenings in school, and three evenings free.

9621. May I ask, are you still in the Volunteers?—No, sir.

9622. The reason I ask was, you advocate shooting as a part of the exercise to be undertaken by boys. Do you know anything about this movement of Burghers of the Queen that was started in Glasgow?—Well, I have no sympathy with them.

9623. Why have you no sympathy with them?—Either have the whole thing or nothing.

9624. That is the point I want to bring out; do you believe that a large proportion of men join the Volunteers to be able to get shooting at the ranges?—The shooting comes in as a part of the work, and an interesting part of the work.

9625. Do you believe that if large facilities were given for rifle practice without joining the Volunteers, a great many men would join these rifle clubs, and neglect their duties to the country by joining a volunteer battalion?—If they want to serve their country, they must do it in proper order, but a large body of loose individuals—I do not mean regarding character you know—go out and shoot, when they want an hour of target practice, and go away, and be under no specific control, is of no value.

9626. No; well I quite agree with you there; but do you think that if facilities were given for indulging that practice you talk of, that many men would go out for an hour or two to shoot, and would never think of becoming a volunteer?—Would never think of becoming a volunteer. Well, I believe that many old volunteers would be very glad to have the opportunity to get back to the targets after they are out of the service for the sake of the shooting.

9627. That is not the point I would like to ask you; I have reason for asking it; do you think that if facilities were given for rifle practice, without the necessity of going through a certain amount of drill, a good many would take advantage of that, and would shirk their responsibilities in becoming drilled in the Volunteers?—I would simply say it is my opinion that they are of very little use to the country. They may go out to the targets for the pleasure of shooting, but that would not be much good. If they are to be of any use, they must put on the uniform and go through the regular routine.

The witness withdrew.

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Mr Cloudesley Brereton, M.A. (Cantab.), examined.

9628. *By the Chairman.* — You are Licencié-ès-Lettres (Paris), M.A. Cantab., and Temporary Inspector to the Irish Board for Intermediate Education?—Yes. I have prepared the following notes.

Physical Education in France.

The Beginnings of Physical Education.—The necessity of building up the nation after the war of 1870 induced the French statesmen of the day to pay increased attention to education of all kinds, including physical. Jules Simon, in his book on the reform of secondary education, declared that the scholastic contempt for health and hygiene had been a potent factor in the disasters that had befallen the nation. The reforms in physical education took the shape of gymnastics and military exercises, the chief aim in view being the preparation of the rising generation for their future share in the national defence. The hands of those who took this patriotic view of physical education were greatly strengthened by the growing danger of a fresh invasion towards 1876. Gymnastics with apparatus were everywhere rendered obligatory, and the movement in favour of military drill culminated in the creation of regular cadet corps in the schools, both primary and secondary. These cadet corps were known by the name of 'bataillons scolaires.' As these cadet corps, after a brilliant debut, fell into discredit, and later on into complete ridicule, it is probably worth while giving a fairly full view of the causes of their inception, and particularly of their failure, since there is often as much to be learnt from experiences which have failed as from those which have been successful. Besides, the subject has some interest for us in this country, as there is to-day a distinct movement in favour of establishing some form or another of military drill in all the schools.

The Cadet Corps.—The chief cause of the foundation of these corps was the desire to make the school a sort of nursery for the future defenders of the country. The idea was naturally most widely adopted in the large centres of population, and especially at Paris. The children were armed with wooden swords and muskets, and provided with special uniforms. There were fifes, trumpets, and drums. Some of the children were appointed non-commissioned officers. The higher posts were filled by the sergeant instructors, aided by several 'officers de réserve,' who were only too glad to air their uniform. Regular parades and reviews were held in the Garden of the Tuileries and elsewhere. Those whom I consulted on the subject admitted that the object in view of accustoming the child from its earliest years to consider itself the natural defender of its country was an excellent one, but they, one and all, declared the movement in France had been a complete fiasco.

Failure: causes.

Causes of Failure.—A good many reasons were given. The cost to the town was altogether out of proportion to the results obtained, and the results themselves were unsatisfactory rather than satisfactory. The children, especially those who were made non-commissioned officers, affected the manners and language of the drill sergeants, who imported into the playground the phraseology of the barracks. The teachers began to take alarm at their children, who swore and expectorated after the most approved military fashion. Then, again, the children who had been made corporals and sergeants tyrannised over the others. The discipline was often very slack. One witness told me of a case in which he saw a real colonel surrounded by his youthful prisoners, who kept him a virtual prisoner by crowding round him, while those in his rear decorated his uniform with elaborate designs in chalk. But the teachers were not the only opponents of the movement; the regular officers were also hostile. Experience showed that the children who had left the school at thirteen or fourteen had mostly forgotten what they had learnt when they became soldiers at nineteen and twenty. This was not, however, an unmitigated loss, as it was generally admitted that the young people who had taken part in these exercises had, as a rule, a good deal more to unlearn than those who came to the barracks without any preliminary training. Started in 1873, the last of the bataillons scolaires were suppressed in 1890. The moral of the whole experiment was

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summed up to me by one witness in the following words: 'It is just as necessary to give the body a 'general training as it is to give the mind. Specialisa- 'tion must come later. To expect to make a soldier of 'a boy of ten is as sensible as to try and make a boy 'of the same age into a dentist.'

Gymnastics.

Gymnastics.—This does not imply that the French have given up all idea of utilising the school as a preparation for the regiment. On the contrary, the gymnastics, with or without apparatus, were until recently far too much of a military type. While the bataillons scolaires have fallen out altogether, the societies of gymnastics still exist, though their career has been rather a chequered one. Up to 1887 the number of the private societies, recruited mainly from the primary schools, increased. Their numbers then remained stationary for several years, and have since declined. The reasons for this falling off are several. Their most severe critics have been those who have made a study of physical education on scientific lines.

Objections.

Objections to the French Gymnastics.—It has been shown that the exercises with apparatus are often injurious to those who are weakly constituted. Besides, the whole aim of such a system is to form rather acrobats than well-developed and well-proportioned individuals. Instead of seeking to increase the respiratory powers, its chief object is the foundation of muscle. During the last year or two, however, a great effort has been made to introduce the Swedish exercises, or at least the principles underlying them. The opposition has been very bitter on the part of the military instructors brought up under the old régime. All sorts of reasons have been advanced, not forgetting the patriotic. But, as one critic has pointed out, the so-called French system is really German, having been adopted in France after passing by Spain. Still the theories of which M. Demeny of Paris, and M. Tissié of Bordeaux, are advocates, appear to be getting the upper hand to-day, so much so that at the military school of Joinville le Pont, at which the military instructors for the army are formed, M. Demeny has now a class of his own. As these instructors become later on professors of gymnastics in the lycées and primary schools, it is evident that the 'gymnastique raisonnée,' as it as called, is sure of success in the long run.

Gymnastics in primary schools.

Gymnastics in the Primary Schools.—An important Commission in 1887 was nominated to revise the programme of gymnastics. Their new programme, issued in 1890, was followed by an official manual on gymnastic exercises and school games. This, however, was merely a book in which the teacher could pick and choose, and no indication was given as to how the teacher should form for himself a scientific course of instruction for his pupils. This gap was filled in 1899 by the publication of a volume by M. de Demeny, entitled, 'L'exercice à l'école,' in which a number of graduated courses were suggested.

French v. Swedish.

French *v.* Swedish.—Meanwhile the old battle between the so-called French methods and the Swedish had been gradually fought out in the schools. The chief argument of the opponents of the Swedish system was that the spirit of the training given on the Swedish system was not in sympathy with the temperament of the French child, who has the greatest difficulty to remain still or concentrate his attention for any length of time.

Swedish victorious.

Victory of the Swedish.—The Swedish method triumphed nevertheless, and to-day, although the new exercises[1] have only been introduced into the Paris schools since last October, the children have made excellent progress, thanks to the twenty-five teachers that M. le Colonel Dérué, inspector of gymnastics to the city of Paris, has been able to gather round him and train. Part of his success no doubt is due to the fact that the professors, though appointed by the town, are selected by himself.

Girls' school.

Description of a Girls' School.—I saw several large classes of girls, one amounting to ninety pupils, undergoing a course of Swedish drill at the command of a lady instructor. There was very little shirking, the precision was very fair, and the discipline unimpeachable. The directress of the school, who was present, told me she had already remarked a distinct improvement in the deportment of the girls. The exercises were interspersed with short marching exercises, concluding with a pas-de-quatre step. During these exercises the children sang various rounds and ballads. The younger ones also sang while playing at catch-ball—a game at which some of them were not very expert. The practice of singing was much criticised at the International Congress of 1900, but provided it is restricted to marching exercises it has certainly a good effect on the pupils. There are no pianos in the schools; the cost of supplying them seems to be too great. The exercises took place in the covered playground, and it was somewhat remarkable not to see a single window open. In fine weather they take place in the open playground.

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Boys' sc.

Description of a Boys' School.—In the boys' schools, in addition to these exercises, the pupils are taught a certain amount of military drill, including *la boxe*, which is roughly an exercise of arms and legs without apparatus. In one school I visited the military instructor took up a position at the side of the open playground and blew his whistle. Instantly the boys, who had not been warned, came tumbling out of the class-rooms, and in one minute forty seconds the whole 800 children had taken up their position in the playground in regular lines, with the masters beside them. They then proceeded to perform with precision several simple military exercises, after which the instructor dismissed them, and kept back one class which he put through various military exercises, such as forming fours, &c. In this case the drill took place in the open playground, but although in the open air the smell of the latrines was unpleasantly obvious.

Danger.

A Possible Danger.—In all these cases the exercises are more or less the same for all classes, and no initiative is left at all to the instructor. There seems therefore a possible danger that teachers and taught may find them in the long run monotonous, though at present I did not see any sign of this.

Time.

Time Given.—The instruction given by the official instructor only amounts to half an hour per week for each class, an amount that the inspector himself regards as wofully deficient.

Teache

The *rôle* of Teacher.—This is indeed supplemented by another half hour in which the exercises are repeated by the teacher of the class, but the time is sometimes split into two quarters, which renders it thereby insufficient. Moreover, the teacher, so I was told in more than one quarter, is not always equal to the task. Unfortunately the teaching given in many of the normal schools is not at present adapted to enabling the teachers to give the right sort of training in the primary schools, though teachers are encouraged to obtain at the school a gymnastic certificate, with a view to earning the prize given by the city of Paris to those who possess it. Still the Administration is anxious to see the instruction largely given by the teachers. M. Bayet, the Director of Primary Instruction, told me that in Switzerland the physical education is given by the ordinary teachers in the normal schools, or, in fact, as it is often given in our London schools, only instead of the teachers receiving additional pay, the hours he puts in in teaching gymnastics count the same as the hours devoted to teaching French or mathematics in the total number of hours he is supposed to work per week.

Counti schools gymna s.

Gymnastics in Country Schools.—Gymnastics and military drill in country schools are largely regarded as an optional subject. In some sixty schools that I visited two years ago, in north-west France, I only came across a few instances in which they were taught. As one teacher pointed out to me, the children got, as a rule, enough exercise by trudging to school and playing among themselves. What is often wanted in the country, however, is not the cultivation of muscle, but

[1] The thoroughness and scientific nature of these exercises may be judged by the fact that before they were adopted in the schools they were submitted to the 'Faculty of Medicine,' who approved of them unanimously.

the cultivation of adroitness and agility and handiness; in fact, the problem in the country is exactly the reverse of that in the towns, where the children are nimble-fingered enough, but lack the physique of the rural lad. It is curious to note that in some programmes of school work the 'school walk' is ranked under the heading of gymnastics.

Kindergarten.—In the Kindergarten the gymnastics are naturally confined to singing, games, and simple manœuvres. I visited one school in which the children sang and performed some of the simple movements: they were rather listless, but it is only fair to state it was near the end of the afternoon.

Higher Primary Schools.—I was told there was not much to be learnt in the Paris higher primary schools for boys distinct from what is done in the elementary and secondary schools. The head of one of the two higher primary schools for girls informed me that the gymnastic programme of the school was taken out of the general programme, the selection being made by the teacher of gymnastics and herself. Very little use is made of apparatus. They had given up the employment of staves from lack of space. The exercises took place either out of doors or in the covered playground. An attempt has been made to get the teaching given by the ordinary teachers attached to the school, a plan the directress preferred in the abstract, but it had not been successful.

For those who have left the Primary Schools.—There are no official evening classes in France, though much has been done by private societies and teachers in creating *patronages* and *associations d'anciens élèves*. In many cases the school is used as the meeting place, and a certain amount of gymnastics and dancing goes on, but, as the associations are under no control, there is no unity of method in the gymnastics as practised in these establishments.

Normal Schools.—In the Normal Schools a considerable amount of time is given to gymnastics, but, as has been already stated, it is not always of the kind calculated to make the teacher an instructor in simple gymnastics for the school. Thus in comparatively few Normal Schools for women are Swedish exercises taught. Still the time given to the subject—three hours a week—permits both the men and women in the different Normal Schools to gain a certificate in the subject. At Auteuil I saw a certain amount of drilling out of doors, combined with military exercises of the foot and hand (la boxe). Several exercises on the horizontal bar were very well done. The professor told me that he every year 'created' fresh movements, in order to prevent monotony. The gymnasium had the advantage of having one side completely open to the air. Like all the others that I saw, the floor was covered with sawdust. According to the professor, the pupils learn all the more common military manœuvres, and they dance also among themselves twice a-week. The gymnasium is also always open, so they can practise whenever they like. In addition, they teach gymnastics in the practising schools, so that when they leave they are efficient in every way. I was told that in all schools the use of the musket had been suppressed. I came across one school, however, in the country in which they are still retained. In the other schools the pupils now use staves in their place in the gymnastic portion of their drill.

Fire Brigade.—In one school in the country that I visited I saw the pupils of the first year had been formed into a fire brigade. I saw them at practice, and they certainly worked with a will. They had already received their baptism of fire at a conflagration in the neighbourhood. The practice might certainly be extended to other schools with advantage.

Secondary Education.—As for the gymnastics in the lycée, they have never been really obligatory, except for the boarders. The day boys take an interest more or the less in them. Thus of some thousand day pupils at Collège Rollin, about 400 attend the gymnastic classes. A few years ago, so I was informed, the subject was so unpopular with the boys in some lycées that the winner of the prize for gymnastics did not dare to go up for his prize for fear of being jeered by his fellows. This spirit cannot, however, extend to all the schools, as at the Collège Chaptal, which is in part a secondary school, there are supplementary classes for those who care to pay for them, and they are well attended. In these schools, as elsewhere, the instruction is given by *anciens sous-officers*, who are often also employed in the primary schools. The exercises themselves are largely taken out of the big manual published by the Ministry. Nominally there is a general inspector, but as he never appears in the schools, each teacher makes up his own programme. The time given to the subject seems to vary. At the Collège Rollin the pupils have three half hours a week.

Classes seen.—I saw several classes at exercise in this school. The dumb-bells in use for boys of sixteen and seventeen seemed far too heavy, weighing something like 13 pounds; the smaller boys had also dumb-bells weighing from 4½ to 9 pounds. The exercises consisted of various dumb-bell movements, varied with practice on the horizontal bar, which was a mere bar of iron uncased with wood, or else consisted of rope and ladder climbing. The professors had sixteen hours' work a week. At Chaptal, which is partly a higher primary and partly a secondary school, gymnastics are obligatory. The number of hours per week is two. Here each lesson consists of twenty minutes of Swedish exercises, followed by forty minutes of military exercises with dumb-bells or other apparatus. I was present at a supplementary class. One squad practised on the horizontal bar, the other took a turn at jumping off a spring-board, and then had a lesson in rope-climbing. In the latter the teacher rightly laid stress on the climbing being done hand over hand, in order to develop each arm evenly. Exercises seen.

Competition between the Schools in Gymnastics.—Every year there is at Paris a general competition in gymnastics for the Secondary and Normal Schools, in which the schools compete against one another either by single champions or by groups. Each school goes through, among other things, a selection of the exercises it has practised during the year, and this helps to keep the teaching in the different establishments more or less together. It was at the general competition of last year that the Normal School of Auteuil, mentioned above, won the first prize. Gymnastics: competition.

Athletics.—There is, no doubt, a certain discipline attached to the practice of gymnastics, but as a means for developing the character and individuality of the pupil they are obviously insufficient. Hence the necessity of combining them, as far as possible, with the numerous games and sports, either individualistic or collective. This combination found recognition in France in the composition of the official manual on physical exercise already alluded to. It also formed one of the chief subjects set down for discussion at the International Congress of 1900. This belief in the need of out-door athletics was largely strengthened by the overwork in Secondary Schools that resulted from the alterations in the official programmes in 1885. The Baron de Coubertin, to mention only one of the numerous reformers, came to England, saw and was conquered by the system of education which obtains in our big public schools. Athletics.

(1) Recreative side.—Some of these reformers, it is true, only saw in the English system an excellent means of recreation, supplying the requisite antidote to the over-pressure from which the French schools were suffering. Others, on the contrary, regarded the English games as a capital device for keeping their pupils out of mischief—the French boy, in the eyes of the majority of the teachers, is, to parody the words of Rousseau, born fundamentally wicked. (1) Recreative.

(2) Pastime.—Here, however, the creators of new schools on the English model, such as MM. Demolins and Duhamel, have seen that for filling up a boy's spare time carpentry and other forms of manual work are distinctly preferable. (2) Pastime.

(3) Discipline of Games.—There remains, then, the third conception of out-door games as a school for the will. The necessity for self-improvement in the case of anyone who desires to excel in games is in itself a (3) Discipline of games.

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liberal education, while the games in concert, such as football and rowing, provide an admirable field for the cultivation of social and public spirit. So truly is the British Public School a miniature republic, a training ground for civic life on a larger scale, where the pupils learn alike to obey and to lead, that the celebrated French educator, the père Didon, after visiting Eton, said the boys who learn to command in the games there are learning to command the Indies.

Games in France.

The first phase of the Athletic Movement in France.—The movement in favour of out-door games and athletics in France took, however, at first a distinctly individualistic turn. The Lendit, as the annual championship founded by M. Grousset was called, was practically confined to competitions between the best individuals in each branch of athletics. This led in not a few cases to physical over-training, and had the unfortunate effect of revealing to French parents and school authorities the bad side of out-door sports without bringing home to them the moral benefits derived therefrom.

Objections.

Obstacles to success.—In fact, the great obstacle to the development of athletics in France has been the opposition offered by parents and school authorities. Though much has been done for the education of these persons, much remains to be accomplished. Blind by education to the advantages of games, both parties alike dread them as a possible source of distraction to their boys. In the present fierce competition to enter the public service, every hour given to exercise is apt to be regarded as an hour lost to work.

(1) By parents.

(1) From Parents.—The fear, again, of accidents is a potent factor with the French mother, and in the majority of cases the French mother is the business head of the family, as far as the education of the children is concerned. The question is evidently bound up with the future education of French women.

(2) By teachers.

(2) From Teachers.—As for the teachers, the fear of accidents is also an important cause of their hostility, though the actual reason itself is different. Until recently they were held pecuniarily responsible for any accident to life or limb of the scholars under their charge. No matter however morally innocent the teacher was, he was legally liable. The classic instance—so M. Rabier, the Director of Secondary Education told me—was that of a teacher who was condemned to pay for an injury which happened to one of his scholars in a fight with another, 300 yards from the school. Lately the law has been changed, and the State now assumes responsibility, reserving, however, to itself the right of making the teacher responsible if it thinks fit. Naturally, the average teacher still considers it is better to avoid accidents at any price, and therefore looks coldly on any form of exercise which may occasion them.

Progress.

Progress all the same.—None the less, the school athletic associations, which started in 1890, have managed to interest a certain number of secondary pupils in games, and a still larger number of associations have been founded by pupils from the primary schools. A good instance of the progress is the Union of French Athletic Societies, which embraces some 340 societies and contains some 16,000 active members.

Hindrances.

Further Drawbacks to School Sports.—The movement in the schools has, however, not only suffered from the opposition of parents and professors, it has also been undermined by those who ought to have served as its best friends.

Premature Recruiting by the Big Clubs.—The larger athletic clubs for adults, such as the Racing Club, the Stade Française, etc., in their desire to augment their members and prestige, have treated the school associations as a happy hunting-ground for providing members for their football and athletic teams. They have thereby greatly increased. The Racing Club has over 1000 members, but the effect on the school associations has been deplorable. The average boy of fifteen or sixteen cannot be expected to resist the blandishments which membership of a well-known club offers, more especially when he is expressly invited to join by the committee.

The School Association stunted.—The results have, however, been disastrous in the long run. Perpetually drained of their best blood, many of the school associations have either dwindled away or remained stationary. Lacking the prestige that numbers alone can give, they fail to attract into their ranks more than a tithe of the pupils of the school.

Evil Effect on Student Life.—The evil does not end here. The vast majority of French students not having belonged to their school association, naturally fall into the idle and inactive ways of the *quartier latin*. To profit from the physical, and, above all, the moral advantages of athleticism, one must be caught young.

Athletics in Primary Schools.—As regards the pupils and former pupils of the primary schools, the most striking feature has been the enormous number who play at association football every Sunday in the Bois or the Fortifications. According to a competent authority they number thousands.

Bicycling.—The bicycle may also be mentioned here, not so much for its influence on the education of character, but for the immense impetus it has given to the French people generally to take exercise and live more out of doors. This is especially true of the female sex.

Swimming.—The number of scholars who take up swimming is likewise growing. Some of the primary school teachers take their pupils to the baths, and this custom also obtains in many of the religious private schools.

Shooting.—As regards shooting there exist a few school ranges at Paris, from thirteen to sixteen yards long. There are also six or seven targets at the municipal gymnasium in the Rue d'Allemagne. The children in the neighbouring primary schools who are nominated by their teachers for meritorious work go there and shoot. The range is also open to adults. The weapon generally employed is the small French carbine. The associations of former pupils also practise at the *Stande militaire* at the Point du Jour near Auteuil, and use the Lebel rifle with a reduced charge. There is no long range in the immediate neighbourhood of Paris. There are a certain number of *tir scolaire* in the country; I met with one or two when inspecting the schools, but they did not appear very numerous. In the same year there was a *tir scolaire* at Rouen for the whole of Normandy, but only fifteen schools competed. In two schools I found the teachers allowed certain of the elder pupils to *faire un carton* (fire a set of rounds) once a week as a reward for good work.

Medical Inspection.—The French schools, both primary and secondary, are subject to medical inspection.

(1) Primary Schools.—In the towns, according to Dr Philipp, the school doctors go round the primary schools twice a month. They inspect the buildings and sanitary arrangements, and the teachers point out to them any of the pupils who seem to need attention. In some schools they also examine in detail the teeth, eyes and ears of the scholars. In case of any epidemic the teacher is required to call in the doctor. Those children whom the doctor considers unfit to attend school are either sent home or to the hospital. In the former case they are attached as out-patients to a free dispensary, of which there are three or four in each arrondissement of Paris. The pay of a school doctor at Paris is £32 a year, and he has five groups of schools to look after.

(2) In Secondary Boarding Schools.—In secondary boarding schools belonging to the State, the doctor generally pays a daily visit. A league founded by the Doctor Mathieu to look after the lycées has done a great deal of good; great improvements have been made in the quality and variety of the food supplied in the State boarding-schools owing to the efforts of the league.

Absence of Statistics.—I was unable to obtain statistics on physical education in France, and no one I consulted seemed to know whether any were procurable, but some might be probably obtained at the

physical laboratory of the Collège of France. The only school I am aware of where statistics are kept of the growth and weight of the pupils is the newly-founded Collège de Normandie, which is largely run on British lines.

A Book of Health.—A few doctors of Paris, however, have started a movement which may have, later on, far-reaching consequences. At the lying-in clinic of Doctor Budier the mothers are given a *livret de santé* of their children, and encouraged to bring them every three months to the clinique. At first they could not understand the good of bringing their children when they were well. But now they have realised that there is also a preventative side to medicine, and they are only too willing to bring their children, and listen to the doctor's advice on their bringing up. A similar *livret de santé* has been established at the school of Rambouillet, attended by the children of those soldiers who are too poor to bring them up. A similar system is about to be started at the establishment for recruits who have been rejected for some physical defect from the army. The difficulty against extending such a system lies in the material opposition of the parents, as a rule, to any detailed inquiry into the state of their own health.

For Combating Physical Degeneration in the Towns.—Two schemes for combating the general degeneration of urban populations are sufficiently important to be mentioned here. One is the system of planting out in the country the *enfants moralement abandonnés*, or pauper children, and the other is the *colonie scolaire*, or the sending into the country for a time ailing or sickly children in the towns.

Les Enfants Moralement Abandonnés.—In the former case, the town of Paris has rescued some 50,000 children from certain ruin and degradation, and settled them out in the country with foster-parents. The latter are carefully watched, while the education of the children is safeguarded by the teachers under whom they are placed being remunerated in such cases as when their pupils obtain the school certificate. To prevent any distinction between these and the other children of the village they are provided with the ordinary costume of the children of the peasants. I was assured by the Municipal Councillor who superintended the scheme about four years ago that 80 per cent. of these children remain in the country; 10 per cent. have the love of a city life too strong in their veins. They return to Paris, the city finds them situations, and they settle down. The remaining 10 per cent. are lost sight of, but this does not necessarily imply they have lapsed into a life of mendicity or crime.

Colonies Scolaires.—The school colonies take two forms. In the one case the arrondissement hires or borrows a boarding-school in the country during the summer holidays to which it sends several hundred children. In the other case, it acquires a former château in the country, to which it despatches relays of children during the year. The ordinary duration of stay is three weeks. In the majority of cases the locality is an inland one. The children are selected by the head teachers; the very poor and ailing are taken by preference. Each child must be at least ten years old. In a school of 800, the head-mistress told me she was requested last year to select not less than eight or more than ten.

School Kitchen.—In connection with this, allusion may be made, perhaps, to the *cantine scolaire*, or school kitchen, by which free meals are provided in each arrondissement for the children of the indigent, while those who desire can share in the meal for about three halfpence a day. The cost is partially borne by the school fund which is raised to aid the children of the poor; but, as there is always a very large deficit, the great proportion of the cost falls on the city of Paris itself.

Thanks to Authorities.—In conclusion, I should like to say that, whatever merits this imperfect sketch of physical education in France possesses, they are largely due to those whom I consulted on the subject. Among those to whom I am particularly indebted I should like to mention M. Rabier, the Director of Secondary Education; M. Bayet, the Director of Primary Instruction; M. le Colonel Dérué, Inspecteur de la Gymnastique dans les Écoles de la Ville de Paris; M. Flamand, Inspecteur Primaire; M. Demeny, Rapporteur de la Commission Supérieure de l'Éducation Physique au Ministère de l'Instruction Publique, and Secrétaire Général du Congrès International de l'Éducation Physique; M. le Docteur Philipp; and M. J. Manchon, Professor au Collège de Normandie, as well as the various heads of schools and teachers of gymnastics that I met.

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Personal experience.

9629. *By Sir Henry Craik.*—Will you tell us what your experience has been in England as well as abroad?—My experience is altogether of a general kind. I do not pretend to be a specialist in these matters whatever, but I have taken a very strong interest in education for the last five or six years, and in this side of education, physical education, naturally; if you take up a subject like education, you must consider the physical quite as much as the other sides of the question.

9630. I presume you went through an English school or an University?—I went through an English school and an English University, and then I did rather an unusual thing: I went to France at the age of thirty-two, and got the leave of the Vice Chancellor of the University to enter a French school as a small boy. I wanted to get a French degree. I was in the Lycée for a year and a half, and I was also a member of the University, so I know the inside of French life perhaps better than a good many people, and I am able to look at things more from a French point of view in consequence.

9631. Have you done anything as a teacher?—Of gymnastics?

9632. No; in the schools?—Oh, yes; I had seven years' experience of secondary teaching in England in four or five schools.

9633. Public schools?—Public schools, yes.

9634. Would you tell us which public schools?—I first of all started to teach at the Perse School at Cambridge, then I was at the Heath Grammar School, Halifax, next at St. Edmund's School at Canterbury, which used to be called the Clergy Orphans' School; and last of all I was at Queen Elizabeth's College, Guernsey.

9635. Physical exercises were, I presume, a good deal attended to in all these schools?—Oh, yes; at Halifax we had a regular gymnasium, and at Canterbury the schoolroom was fitted up for gymnastics, and at Guernsey again there was a regular gymnasium.

9636. But the exercises were chiefly taken in the form of games I suppose in all these schools?—Oh, no; the Guernsey gymnastics were pretty serious; they used to go in for the Aldershot competition and come out about fifteen.

9637. They had a military instructor?—They had a military instructor, and at Halifax also they had a sergeant who taught the pupils.

French system: at first too strongly military.

9638. Going on in your evidence, you give a sketch of the French since 1870?—Yes.

9639. And their first attempt at physical instruction after the war was too strongly of a military character—playing at soldiers?—That is the exact phrase that my informants used.

9640. And they came themselves to be convinced of it?—Absolutely convinced of it. I talked to the head of Primary Instruction in France, I talked to private individuals, I talked to the Colonel Dérué, who is the head inspector of Gymastics at Paris, and I talked to the military instructors themselves, and I could not find one single person to say that the thing was in any way a success. They all recognised that the idea of taking your soldier in the bud—catching him young—was admirable, but as regards the experiment it was an absolute fiasco.

9641. There were certain defects that were peculiar to their experiment?—I am very sorry to interrupt

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you, but I wish it to be understood I am only relating what the experience of France has been.

Failure: reasons.

9642. I just want to accentuate a point in your evidence; the failure was partly due to the fact that it was carried out through non-commissioned officers, whose general bearing and manners were far from beneficial to children?—Yes; that seemed to be pretty widely considered to be the fact.

9643. And you are not prepared to say that under due precautions and better organised it might not be more successful?—I do not see in England that factor should count at all, but I mean the difficulty in France was this: the ordinary sergeant rather belongs to the old régime, who swears and expectorates freely, and when he went into the school he behaved more or less as if he were in the barracks instead of being in the school, and, of course, that had a deplorable effect on the *tenue* of children.

Gymnastic association: no progress.

9644. Having failed in the first experiment they turned next to gymnastic associations?—Yes, and they still, of course, had gymnastics in the schools of the military type.

9645. And these gymnastic associations have also failed?—I am told, on competent authority, that they seem to be stationary as it were, more or less; they do not seem to be growing. Up to 1887 they grew, and then since then they have been practically stationary.

9646. And you state have since declined?—I took that from a monograph which was prepared for me by a friend who knows this question very well, and why assured me that they have declined.

9647. Then, following your evidence, you think that the failure was not perhaps due entirely to the gymnastics generally, but to the errors in this particular system of gymnastics; that it was too much directed to acrobatism?—Quite so. You are talking now specially of the schools or of the clubs?

9648. The associations?—Probably having my head full of French when I wrote this, I sometimes used French words instead of English. What I meant by associations was rather the outside clubs—the *patronages* and *associations d'anciens élèves*, and the clubs which are started by the societies, for evening classes in France like the *Philomathique* and the *Polytechnique*.

Reasons: (1) Defective system.

9649. But what I want to get for the information of the Commission is in what respect do you think that this system was defective. I understand you to say, because it tended rather to develop muscle than to develop the respiratory powers?—Yes, that is the view which has been adopted by the specialists in France.

(2) Competition of outdoor sports.

9650. I am coming to that, but that is your impression of the failure?—Yes, that is one cause and the other is the competition of outdoor sports. These two reasons have prevented the gymnastic movement in France from taking anything like the extension that it has in Germany, for instance.

Swedish system.

9651. And in place of that you speak of other theories having come forward; now would you describe to us what these theories are—the 'gymnastique raisonnée'?—Well, there you see the military gymnastics and the gymnastics of the Gymnase generally, are purely empirical. It is a thing which has grown up; like Topsy, it has grown up by itself; it is not based on the lines of physiology. Now MM. Demeny and Tissié came along and they said, 'We must find a 'philosophic basis for this thing,' and of course they looked abroad, and they finally went to Sweden, and studied the Swedish system, and there they got their idea of physical development, and not merely the making of muscle; they saw how much more important it was to practise things, like deep breathing to develop the thorax, the chest capacity of the child, than merely to turn out a muscular Hercules.

Physical development.

9652. How do you distinguish between physical development and the formation of muscle?—Well, of course, both of them ultimately lead to the formation of muscle; only if you take the gymnastic teaching as it it was, the military, it had no scientific basis about it, and therefore it did not develop the whole of the physique of the individual, and on the other hand, of course, it did not in any way take into account the physique of people who want rather building up as well as development, and therefore that kind of gymnastics was often absolutely bad for children of imperfect and weakly constitution.

9653. Now you describe the fight between the French and the Swedish system?—Yes.

9654. Leading to the ultimate triumph of the Swedish system?—Yes.

9655. Now, would you for the information of the Commission give us the salient features of distinction between the two?—The salient features are these: that the Swedish movements are more or less to an extent rhythmical, and the military ones are more jerky movements; if you want to see what the Swedish is like I would refer you to the second volume of Mr Sadler's Reports. The pictures it contains of the Swedish exercises as practised in the London Board Schools give a very fair notion of the system which they have adopted in the French schools. They start with the simplest movements, and then they combine them in more complicated exercises and they practise them more or less as we do in England, employing numbers, just as we do.

9656. But the Swedish system has, on the whole, from your own observation, had a great effect on the schools?—It was only introduced last October into the Paris schools, and considering the short time it has been going on, I thought they really had done very well. I mean if you have only had children for about six or eight months, and they only get half an hour a week with the regular instructor and another half an hour a week with the teachers, which is not so valuable, you must not judge them too severely.

9657. Although to a certain extent it was satisfactory, you think it is open to certain dangers. The chief of these you mention is that there is not sufficient initiative left to the instructor?—That is quite true. I asked M. le Colonel Dérué, and he said the exercises were absolutely the same all over Paris, as well as being very largely the same for each class. Of course, the system has only just been introduced, but it seems to me it might be liable to become slightly monotonous in the long run.

9658. Of course, that is the tendency of the French system of education all round to a certain extent?—Yes.

9659. Then you found also another defect, that the teacher is not always up to his work?—That, of course, is very strongly marked at the present time, and it comes from two reasons. One is that either the teacher has not undergone a gymnastic training, or that the gymnastic training he has undergone has not fitted him to be a teacher of the Swedish system.

9660. And one of the evils in the training of the teachers has been that there has been too much of the gymnastic element?—Quite so.

9661. And too much of the competitive element?—Quite so; yes.

9662. Coming to the country schools generally, you tell us that it is purely optional?—Perhaps I ought to qualify that in order to put it absolutely correctly. According to the ministerial decree it is obligatory, but it is one of those things that makes the French programme rather intricate. If you did everything that you were told, you would have to work for thirty-four hours a-week, and thirty hours is the regular course; therefore something has to go by the board, and naturally in the country districts the subject sacrificed is gymnastics. I visited about sixty schools two years ago for the English Government, and I think I only saw military drill or drilling of any kind in about two schools—three, I think it was—and I talked to the teachers about it, and they said to me, 'Well, 'the children have enough exercise in coming to the 'school.'

9663. But you think from your observation that they do require more; that there was a certain agility which had to be developed?—Exactly; the physical problem in the country seems to me to be the reverse

of that in the towns. In the towns the children are lithe and handy enough, you want to build up and strengthen their physique. In the country the children are strong and healthy. The problem is therefore to render them more agile and handy.

9664. You were able to compare the town and the country children of France?—Yes.

9665. From your previous experience in England can you give us any comparisons between the children of France and of England as to their acquirements; I mean England and Scotland, of course, of our country?—I am very sorry to say I do not know anything about Scotland.

9666. Of this country we will say?—Well, the district of France that I went through for the Government happens to be one of the most alcoholic districts of France. It is one of the most frightful things to contemplate how the physique of the inhabitants of these districts has degenerated during the last thirty years. Well, to give you some idea, the number of recruits who are rejected because they do not come up to the standard of the army requirements are six times as many as they were thirty years ago, so that naturally you can see in that particular district that I went through, although the children looked pretty well, they were degenerating, were they not, in a sense?

9667. Then beyond the age of elementary education, and for those who have left school altogether, you think there is very little opportunity in France for physical training?—Well, it seems to me that it is not solidly organised at the present time, that it is left very much to the individual teacher, the military instructor. One little thing that struck me was this—I think it is characteristic in a good many cases—the boys use far too heavy heavy dumb-bells in the ordinary exercises.

9668. The fact is, that from your sketch of it in the secondary schools it appears that it is looked upon very strictly as a part of the training and instruction, not as a recreation, and that the feeling of the pupils themselves is rather adverse to it?—Yes. I think in many schools they do not take it very seriously.

9669. But of course that is a feature of the secondary schools of France altogether, that athleticism is not so much developed and games are not so much a part of the life of the school as in this country?—Yes.

9670. *By Mr Alston.*—Is there anything in the nature of the French apart from the great mistake they have made in forming these cadet corps that led to their complete failure; are they very trifling, stupid sort of children?—I think what you say is certainly an interesting point, because it really hinges so largely on the different conceptions of discipline and of bringing up children which prevail in the two countries.

9671. You know at present cadet corps are very much in favour here?—Yes, I know they are.

9672. And we cannot conceive their failure in this country in the way they have failed in France?—I am only here to tell you what has happened. I do not pretend to convey the moral to England at all; I only want to give you what experience I have had in order that it may help you with the experience you have got.

9673. Is the new exercise they have introduced called *la boxe* anything like what we mean by boxing?—No, it is lunging, with arm movements.

9674. Physical training on the ground?—Physical training on the ground, yes.

9675. There are no qualities desired such as are supposed to be attained by boxing here?—No; it is purely a mechanical exercise which is called *la boxe*.

9676. And the fear of the French mother, is not that her son is to be a soldier, but lest he be hurt?—That is quite true.

9677. There can be no objection on the ground of militarism in France?—No, quite so.

9678. *By Sir Henry Craik.*—You describe how the failure of those systems came about, and you describe the development of athleticism in the schools and the difficulties it had to meet?—Yes.

9679. It is evident that the French nation was convinced that there had been too much of a formal and uniform system of drill, and that what was wanted in their case was the development of games?—Quite so; yes.

9680. But these have been checked by certain things; first of all, parents were against them?—Yes.

Development of games desired by French: hindrances.

9681. Teachers were against them because of the absurd responsibility that was laid upon teachers?—Quite so.

9682. And the boys themselves were not very much in favour of them?—No.

9683. Besides that they were injured by the boys being drawn off to these older clubs?—To these older clubs.

9684. As recruits for their competing teams?—Yes.

9685. So that the element of undue competition came in as an additional obstacle to this development of athletic interest?—I might have seemed to be travelling a little far afield. I put that in because it is so; young men of university standing not having been caught young in athletics, spend their leisure in the Quartier Latin instead of going into athletics. That is an important element in the question of improving the national physique.

Experience of France.

9686. Summing up, one finds that the experience of France has rather tended to make them give up cadet corps?—Quite so.

9687. Because of their imitation of military organisation?—Yes.

9688. Also formal gymnastic exercises?—Yes.

9689. And to develop themselves on the side where they were most failing, that of games?—Yes.

9690. But on the other hand, of course, in France, at a later period of life, the boy does get a military training?—Oh, yes; quite so.

9691. Well, they may wish to avoid it in their schools, knowing that at a later period the boy will go through that training?—That is perfectly true.

9692. That, then, of course, would not apply quite to the case of our own country?—No; except this. I have got two passages here which I would like just to quote. Some people think even on ordinary grounds that the boy should not go in for military training. The first passage is from Col. Dérué. He says up to sixteen it would be suitable to leave on one side those exercises which are exclusively military. He then goes on to say that the *bataillons scolaires*, the cadet corps, had one original vice. Their members were all scholars, everything finished with the school, and the young men from thirteen to twenty, of course the military age, were deprived of all direction. What he meant really was that the pupils went to the school, they learned a certain amount of military drill and that sort of thing, but there was such a long interval between the military drill at the school and the time when the young man joined the regiment, that the effect of the teaching of the school was lost. The other passage was from M. Demeny's Report. He was the Secretary-General of the International Congress, and one of his sentences is: 'The military gymnastics has been the first applica-'tion of athleticism, but one has committed for a long 'time the error of transporting into the school the 'proceedings of athletes and applying to children the 'exercises of adults.' His criticism refers exclusively to the primary school, but this of course has been the chief defect up to only a year ago in France.

Cadet corps.

Medical inspection.

9693. You speak of the medical inspection, going on with your paper; is the medical inspection of schools and of the children in the schools in France, in your mind, on a good basis?—What I put down was what I was told by a specialist on the subject, and I am sorry to say I had not time, in the short time I was over there, to go into the matter sufficiently to say whether it was thoroughly efficient or not. I spoke, however, on the subject, to another friend of mine, an inspector of schools, and he seemed to be perfectly satisfied with it.

French system: deductions.

9694. Summing up the effect of your observations in their bearing upon this country, we have to avoid certain errors that they have committed, but at the same time these errors were of a kind to which France

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was rather more exposed than our own country?—Oh, yes; I think that is quite true.

9695. And that the tendency to militarism or formality and undue restraint in regard to physical exercise is not a danger so great in the schools of this country as it is in France?—No; I have my own ideas about military drill in England; I think, however, the question of discipline will come up in somewhat the same way.

In England: cadet corps in secondary schools.

9696. But do you think, from your own experience of schools in England, that that military discipline will be a useful adjunct of ordinary school life?—I think in secondary schools it would be always easy to create cadet corps, because you have always got a certain number of boarders, and they are a sort of *cadres* round which English sports have formed in schools, and they will be the centre round which military drill will form in the schools. But I have got a perfectly open mind on the subject of the primary schools.

9697. You doubt whether it will be?—I wish to learn more myself; I have no opinion.

Sound physical training desired.

9698. But for the poorer children, who have not the same opportunities for games, a certain form of well-devised and scientifically based physical instruction of course is very important?—I should like to see that introduced everywhere.

9699. And probably would not lead to those errors which France has dropped into?—No, certainly not; let us have something like the Swedish as a basis, and then build on that.

French military service.

9700. *By Sir Thomas Coats.*—What proportion of the male population of France are taken into the army; not the whole, of course?—Under the law now, everybody has got to serve at least one year, and most of the people, of course, serve three years; even the priests have to serve in the army, that is to say in the ambulance. Everybody who is not physically defective, or who is not the seventh son in the family or the son of a widow—the *soutien de famille*, one of the sons of a widow, has a right to get off the military service—has to serve without any exception.

French and German military service.

9701. That is quite different from Germany?—Yes! It was one of the most serious mistakes the French made, making military service compulsory for all as they did, instead of maintaining the voluntary system, such as the Germans have. Among the fifty or sixty young fellows, at the Lycée and the University I have known, who had done their military service in France, I only remember one who liked his time in the army. They generally loathe it. When you go to Germany, it is quite different; the young fellows generally look back with pleasure on their year's service with the regiment; or at least they do not mind it.

9702. In Germany they only can afford to take up so many men each year; they take up the number that they require, then the others are left?—Yes, that is quite true.

9703. In France it is quite different?—Yes; some people go and live in Hamburg, because Hamburg has a comparatively small contingent to provide, and, therefore, if you live in Hamburg, you have more chance of not having to serve.

Country schools: musket.

9704. I notice you say that in the country schools they have given up the use of the musket entirely for drilling?—Yes, they have given it up entirely.

9705. Why is that; why do they object to that?—I think they gave it up because they were so sick of these cadet corps; you see the whole thing went by the board.

9706. Do you think there is any danger at the present time in this country of any falling into the same mistake that they did in France; do you think that after the war, having found so many men deficient in physical strength and chest measurement, we might run in the same lines that they did, and that it will be evanescent, that it will blow over in a short time?—All my French friends, when I told them of this military drill in England, said, 'Oh, you are going through that stage, are you?'

Perfunctory gymnastic training.

9707. I notice that you say that in the more advanced schools they hate the gymnastic training, and that the winner of the prize for gymnastics did not dare to go up for his prize for fear of being jeered at by his fellows?—This was told me by a friend of mine who writes on education in France, so I believe it is correct. I remember also when I was at the Lycée the gymnastics were of the most perfunctory order. You were taken into the gymnasium for a quarter of an hour; about three-fourths of the fellows stood round and talked, and two or three fellows jumped over the horse, or got on the bars and turned round.

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Failure: reason.

9708. It is more because it is not thoroughly done, is that it?—That and also you see the French people had entirely to organise their physical education. They did not understand. They do better now; they are beginning to appreciate the pleasure of the happy athlete, if I may put it in that way; perhaps that will bring to your mind what I mean; the pleasure of the body. If you go to France you are astonished by the influence of the Middle Ages which is still over the people. Take the question of hygiene, for instance; only quite recently in some of the big schools the boarders had only foot baths once a month and one bath a term. That recalls to you Michelet, who said the Middle Ages were 1000 years without a bath.

Swim

9709. You say that swimming is increasing?—Yes, it is; but I do not remember any of the Lycées going there deliberately; the boys go down there, but the largest private schools very often take their boys to the public baths and teach them swimming.

9710. You said in certain parts of France that the physical development of the children is going down very much?—Undoubtedly it is.

9711. Is it confined to those districts you talked of, the alcoholic districts?—I did a report for the Government about two years ago on the rural schools in north-west France, and there is just a page on the subject that perhaps will help to throw light on your question. I had to inquire about the rural schools. Now, I do not believe in investigating country education unless you study the rural problem itself. It is like writing a prescription for somebody you do not know. You must know the country, and so I attempted to give a description of the country itself and the wants of the country. I happen unfortunately to live in the country, so I know something about the English problem. You have it here; it is on Alcholism. I will leave the book here for you if you like; that will give you a bird's eye view of the whole problem.

Shoot

9712. There is just one other question: you say shooting is not taken much advantage of; that they have opportunities for real shooting, but that they are not keen on it?—They say that the thing is stationary, that it does not grow.

9713. Shooting in the French army—is it a pretty high standard?—I cannot tell you; I do not think I know about that; I could easily find out for you if you like.

Frenc reform game

9714. *By Mr Shaw Stewart.*—I see that the French reformers who came over to England were struck by the value of British games?—Yes.

9715. They say that games played in concert, such as football and rowing, provide an admirable field for the cultivation of social and public spirit?—Yes.

Game physi exerci

9716. We have had a good deal of evidence tending to show the value of physical exercises over games for bringing forward the qualities of every boy and girl; but I suppose you agree with the dictum of these French reformers?—Oh! absolutely.

9717. And we ought not to neglect the value of games as well as of physical exercises?—Yes; physical exercise does not seem to me to develop sufficiently the character of the individual. It either develops it badly in the sense of making things too much of a competition, or else as all movements are done in concert or by word of command; the pupil's will is exercised in a passive, not in an active fashion; the free activity of the child is not brought into play.

Combi

9718. In your opinion the two should be combined: physical exercises should lead up to well-organised games?—I would have both; I was talking of secondary schools; I would certainly have a gymnasium, and I would have games; undoubtedly both.

9719. We have to consider not only the physical training at schools, but we are also in our remit asked to advise as to what can be done with the boys after they leave school between fourteen and eighteen?—That is most important; I would be quite as strong on both of them; they are both a sort of corrective, one of the other.

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9720. Have you any views at all on providing attractions for boys after they leave school, attractions in the direction of physical exercise or athletics or games?—I have only seen one or two experiments. There was an exceedingly successful one at Halifax while I was there. We started a gymnasium for fellows who work in the mills. Work in the mills is all manual dexterity and finger-work. Although we had 1200 boys, there was not a single boy in one class of 200 who was able to take hold of the bar and pull himself up like that (*indicating*). After three or four years we had boys going out as gymnastic instructors. There was an experiment which went on wholesale; what made it so popular was that the sons of the millowners took it up, and gave the requisite lead.

9721. What age would these lads be?—Well, I suppose they started about twelve years of age; I should say the majority ranged from about fourteen to eighteen; they were mainly boys who had left school or were half-timers.

9722. I have no doubt of the excellence of the training of such boys, but one difficulty that presents itself to us is the attractions we can hold out to get them in to practise these games?—Yes; of course there was the personal element that brought them in there; you have got to enlist the right people, that is what it comes to.

9723. *By the Chairman.*—Just one question, please, about the French army; is it the case that they are very good at marching, or is it not the case?—I should think they are good at marching.

9724. I mean exceptionally good; is that true, the idea that has been conveyed to me?—I should imagine the best regiments do sometimes forty or fifty miles a day. I am speaking of the *chasseurs à pieds* in the army of the East on the frontier. These are specially trained in a fast military step called *le pas gymnastique*.

9725. I understand it is not general in the French army?—The French army varies enormously. I am only telling you what my friends have told me. They say if you happen to have the bad luck to go into the Army of the East—Nancy, about there—it is a most serious training in every way; but if you happen to go to some place in the West, you may have a very easy time. The army, undoubtedly, varies greatly, and therefore, of course, you always try and exert what family influence you have to be put into the regiments in the West.

9726. My object, of course, in asking the question about the marching was to show that in spite of singular deficiencies in physical training, somehow or other a considerable portion, as I understood it, were rather wonderful in their marching, although it was not very elegant?—One thing is they are fairly light weights, and I am sure it makes a difference if you have not got so much to carry; do you not think so? But I am sure from what they have told me of the West, the military exercises there are much less severe than those on the Eastern frontier

The witness withdrew.

Adjourned.

TWENTY-FIRST DAY.

Monday, 15th September 1902.

At the Museum of Science and Art, Edinburgh.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.
Mr J. C. ALSTON.	

Mr R. B. PEARSON, *Secretary.*

Mr H. H. ALMOND, LL.D., examined.

Mr H. H. Almond, LL.D. 15 Sept. '02. Higher class school.

9727.—*By the Chairman.*—1. State your school and university training, your former experience, and the time in your present position.

Ans. I was at Glasgow University for five sessions from the age of thirteen, and went at seventeen to Balliol as a Snell Exhibitioner. At Oxford I had a double First Class at Moderations, and a double Second at Finals; I also rowed in the Balliol Eight. After some minor Masterships, I became Second Master of Merchiston in 1858, and bought Loretto, then a preparatory school of fourteen boys, in 1862. I have been headmaster of Loretto ever since.

9727.—2. (*a*) What is the class of your school and scholars?

(*b*) Give the numbers and ages of the pupils.

Ans. Our boys are all boarders, and are of the class which may be roughly indicated by the terms being about £100 on the Classical side, and £110 on the Science and Modern sides. When we broke up in July there were 142 boys on the school roll. About sixty of these were Scotch, sixty English, and the rest colonial or foreign (by residence). Reckoning by their last birthday, 6 of these boys were nineteen years of age, 14 were eighteen, 29 were seventeen, 20 were sixteen, 27 were fifteen, 16 were fourteen, 10 were thirteen, 8 were twelve, 5 were eleven, and 3 were ten.

9727.—3. Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.*, football, cricket, hockey, etc.

(1) Are they organised and supervised by masters?

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(2) What is the size of the playing field, and its distance from the school?

(*b*) Drill: how taught, and by whom? Gymnastics, free or applied? Is there a gymnasium attached to the school?

(*c*) Athletics, *e.g.*, jumping, running, etc.

(*d*) School runs, paper chases, etc.

(*e*) Handicrafts.

(*f*) Voice training.

(*g*) Cadet corps, rifle shooting.

(*h*) Swimming.

(1) Is there a swimming bath attached to the school?

(*i*) Fire brigade corps.

(*j*) First aid and ambulance.

Existing opportunities. Games: organisation.

Ans. The organisation of the games is this:—

The two head boys, who are selected by myself, make out from printed lists cricket, hockey and football sides, according to the season. The sides are so arranged that there always are a few over the number necessary, in case of any boy being incapacitated. These sides are only provisional, as boys can be changed from one to another at any time, so that promotion is always open to all.

I look over the sides, chiefly in order to see that, in football especially, no boy is put to play with those much bigger or stronger than himself, and also that the instructions contained in the book of the medical officer (*vide* 22) are duly carried out. Then, in consultation with the head boys, I appoint captains of sides, boys often being taken from a higher side to captain a lower.

Every day, in our assembly after morning prayers, I (or my deputy) see the boys divided into sides for the game of the day, those who are unable to play, or wish for exemption, sitting apart.

The sides are then arranged by the head boy as well as possible with regard to numbers.

Football.

Football sides play about three times a week (not counting Saturdays), the big side only twice, for about fifty minutes each time; hockey sides, or punt about, or runs on the other days in winter. Boys who are unable to play, or who have leave off sides (the number required being sufficient without them), say what form of exercise they wish to take, and the fives courts, lawn tennis courts, etc., are arranged for.

In summer the big side plays games about twice a week, the other side three or four times. Boys on the lower sides, on their days off, have to take their turns of fielding when big side have nets, but otherwise they can go cycle rides, etc., etc., only stating beforehand to the acting head boy what they mean to do.

Generally one or two masters play on big side at football and cricket, and masters often undertake to coach or referee or umpire for a particular side.

Otherwise there is no playfield supervision by masters, the school officers being responsible.

Playing fields.

(*a*) There are two playing fields of about 10 acres each; one is about three-quarters and the other about a quarter mile from the schoolhouse, but the latter is close beside the preparatory house. There are also within the school grounds two small parks and two dry playing grounds, suitable for various games.

Drill.

(*b*) Drill is taught by a resident sergeant-major instructor. The sergeant-major instructor of the Musselburgh Volunteers also gives two 'big open-air 'drills' weekly, during the summer term, to the whole school, in two divisions. Gymnastics, fencing, and boxing are also taught by the resident instructor in the gymnasium attached to the school.

Athletics.

(*c*) These exercises were once very prominent at Loretto, but have ceased to be so. I have come to regard long races, even 440 yards, as a frequently injurious strain on growing boys, and I consider competitive 'athletics' (though I once thought otherwise) to be nearly as great an evil as competitive Scholarships.

But in fine weather, in spring, the whole school have afternoons for jumping, hundred yards, and hurdles, and prizes are given for the attainment of certain standards, *e.g.*, five feet for the high jump. But the main object of such athletics is to develop the naturally clumsy boy (not to produce 'records'), just as the main object of school work is to do the best for the dull boy, rather than to attain what are called 'successes.'

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(*d*) The country is not adapted for paper-chases; School runs. and they also, in my opinion, often cause dangerous chills, from the hounds standing still, at fault, when overheated. But runs are most valuable. There are always runs for every boy on days too wet for games, about three miles on full school days and four and a quarter others. On days not absolutely wet, but unsuitable for games from wind or sodden ground, the boys often go 'grinds' (especially on Saturdays when there is no match) from six to twelve miles or more, according to circumstances.

(*e*) There are two carpenter's shops. Every boy on the modern side and in the two science classes has a box of tools of his own, and carpentry is a regular part of his school work, examined upon, and marked for at the annual examinations. Handicrafts.

I hope soon to have appliances for blacksmithy and other handicrafts.

I regard the teaching of these as most valuable at school, so that boys may be learning what may be practically useful, at the same time that they are receiving the advantages of an all-round education.

(*f*) Every boy, who possibly can, learns singing. There is a resident organist and choirmaster, with a resident assistant. Voice training.

The younger boys have daily practice, partly in voice exercises, and partly in vocal (chiefly sacred) music. Each part has also half an hour or more weekly practice; and there are three full practices.

Boys who do not sing have other prescribed occupation at these times; so that singing counts in lesson hours. About three-fourths of the school are in the choir, and most of the rest have been in it as trebles, or will be in it when their voices have passed through the breaking stage.

(*g*) The non-cricketers (about 16 in number) have rifle drill and shooting, partly with Morris-tube and partly at butts on the sea-shore twice a week. Only upper boys are allowed to be non-cricketers. The cricket XI. have similar practice once a week. We have hitherto had the use of rifles belonging to the Musselburgh Volunteers. But we have arranged to procure rifles for our own use, and to have more rifle practice, extending over more boys. My answer to question 16 enters further into this subject. Rifle shooting.

(*h*) There is no swimming bath attached to the school. There is sea bathing in summer, and most boys learn to swim. By a certain amount of proficiency a boy becomes a 'rafter'; and if he can swim round all the rafts, he becomes an 'outer rafter,' which is an object of ambition. Boys also frequently go up in the afternoons, when their side is off, or when they get exemptions, to the excellent swimming baths at Portobello. Swimming.

(*i*) (*j*) I am sorry to say we have no organisation under these heads. I see the desirability of it; but our programme is so full that it is impossible to organise, and to fit in, everything desirable.

9727.—4. State specifically the time allotted to these or any of them *per diem* and per week. Games: time.

Ans. Football, as a rule, goes on for three afternoons weekly from October to March, weather and ground permitting, for about an hour.

Big side plays twice a week, at the most, for fifty minutes.

I regret that the modern development of the game, in order to attract spectators and make 'gates,' has tended to make it too fast, and a great strain on growing boys, where it is played keenly. I have done my utmost to persuade the other schools to join us in making rules adapted to growing boys; and here I am strongly supported by our medical officer, and, I believe, by the medical officers of other schools.

There is also a good deal of drop-kicking, and often a kind of association football, during our morning intervals, within the school grounds.

Hockey is played regularly before and after the football season, and for more days in the week and longer time than is possible with modern football. It is also sometimes played during the football season.

Cricket is usually played from 3–4.15 p.m. on three days a week; and from 2.15–4.15 on other two. The elevens also, especially the XI., have often 'fields 'out' for half an hour before early dinner. But all boys have at least one day a week off cricket, and special exemptions may be gained by those who field keenly.

Gymnastics and drill, etc.—All boys have half an hour daily in the gymnasium, or for outdoor drill. Then half hours occur at various times in the morning or evening.

No boy may be in the gymnasium, or indeed anywhere indoors, for any cause whatever, except doctor's orders, during the time set apart for outdoor exercise in the afternoons.

Swimming in the sea has to be fitted into the tides. Rifle drill and shooting are at the same hours as the games.

School runs are also at these hours. But on wet days, so long as a boy does his run, he is not obliged to be out of doors the rest of the time.

Athletics when they are 'the game of the day' are at the usual hours. But boys often practise jumping, etc., inside the grounds during morning intervals.

During frost, skating takes the place of games, and when snow is on the ground, tobogganing. We owe many thanks to Lord Wemyss and Lord Elphinstone for the facilities which they have granted us for these splendid exercises.

So far I have not included Saturdays.

On Saturdays indoor work ends about 12.30, and there is no more till about 7.30 p.m.

There are usually three or four cricket matches in summer, often hockey matches in spring and autumn, and three or four football matches in winter.

Boys in general are allowed to look on, provided they take abundant exercise afterwards. After looking on at football, they have a three-mile run.

But many boys go on expeditions for cycling, catapulting, ferreting, bird-nesting, entomology, photography, etc.

On Saturdays when there are no matches there are 'grinds' for the whole school, as described before. On two Saturdays in the year there are longer grinds, usually one from Selkirk to Peebles, one from Pomathorn to Innerleithen, one across Muirfoots, and one up Carnethy or Arthur's Seat. The longer grinds are a privilege, gained by marks. As they extend to about forty boys, all VI. form, school officers, and members of XI. and XV. are eligible. What counts most for the rest, is having done a twenty mile walk in the previous holidays.

I think that walking and hill climbing ought to be far more encouraged than they are.

9727.—5. Are any of these taken in ordinary school hours?

9727.—6. What, in your opinion, are the respective merits and relative values of the various forms of physical training?

9727.—7. How far are these opportunities taken advantage of?

Ans. When boys first come to us, a great many of them are much disinclined for any exercises which involve much exertion or discomfort, or the possibility of being hurt. They have been carefully trained at home to avoid such things. I think that fully a third would not take much advantage of the gymnasium, the swimming rafts, wet weather runs, long grinds, or Rugby football, if they could help it. But with us, unless medically exempted, they cannot help it. By degrees nearly all boys become enthusiastic for Rugby football, and like gymnastics and long grinds and swimming. But though with most of our upper boys a wet weather run becomes such a second nature, and the absence of wet weather exercise produces such dulness and discomfort, that I think most of them would take such runs, in the worst weather of which this climate is capable, if left entirely to themselves, yet I cannot say what proportion of the others would be found hanging over a fire, and progressing towards a flabby condition of body and mind, if they were allowed to prefer immediate comfort to high-spirited health. Some, after a fair trial, are exempted from cricket, if they have other active occupation, and take their turn of cricket fagging.

I have answered the spirit rather than the letter of this question, as there is generally no option for boys in the matter of taking advantage of our physical system.

9727.—8. What, in your opinion, are the results of such physical training?

Physical exercises: results—(1) duty, (2) amusement.

Ans. I give the first place to wet weather runs and the grinds above mentioned. It is evident, even to outsiders, that the conditions, physical, mental, and moral, of boys who have been thus engaged, is likely to be much better than if they have been sitting over fires, or roaming about and vitiating the air of schoolrooms or reading-rooms. Such continued exercise, never violent, as it sometimes is in games, or intermittent, as in cricket, or sluggish and interrupted, as in golf, is eminently calculated to expand the lungs, oxygenate the blood, and impart vitality to throw off noxious germs, especially, I think, those of tubercle.

But more than this, those who have experienced the delicious after-glow resulting from such exercise, and contrasted it with the stagnant condition occasioned by an afternoon spent indoors, acquire a most valuable habit for life. Many a young man remains well and strong under the unfavourable circumstances of modern city life by having formed at school the determination that, in spite of all obstacles wherever he is, under all possible circumstances of rain and storm, he will have his exercise. He may be too old for football; he may not be able to spare the great number of hours requisite to get sufficient exercise out of golf; the roads or streets may make cycling impossible, but he can always walk. And above all, if boys are taught at school that keeping themselves in prime physical condition is a moral duty, and that therefore the time daily allotted to it is nothing less than sacred from the interference alike of laziness and of impositions, the divine laws which have to do with health and well-being, and which are now more and more clearly revealed by science, gradually acquire a sanctity in their minds of which our forefathers never dreamt, and physical laziness and self-indulgence assume the character of physical sins. Circumstances and temptation in after life may bring about lapses, in this or in other ways, but the recollection of how their daily exercise, no matter what the weather, or the other calls upon their time, was made a paramount duty at school, will come back upon them with a force always strong and often irresistible.

I have enlarged perhaps unduly on this point, because that exercise is in the first place a duty, and in the second place only an amusement, is the keynote of the present enquiry, as I conceive it.

Games: respective merits: football.

Of all our games the most important is football. It obviously cultivates courage, dash, and alertness of movement. But its even more valuable points are not so obvious to those who are not behind the scenes. Quickness of decision between a multitude of conflicting alternatives is one of the most valuable qualities in life; and it is eminently fostered by football. The issue of a game may depend on whether a player kicks up, or dribbles, or punts, or drop kicks, or passes. A mistake may be fatal, and hesitation is even worse. Those who talk platitudes about 'muscle and brains' forget or are ignorant what complex brain processes take place in such cases, and how much a great player at football owes to his brains.

And again, football only comes second to rowing in teaching endurance and self-restraint. Endurance, as I have said above, is carried even too far by the game which the Unions have encouraged. When a boy gasps out at the end of a match, 'I didn't know a fellow 'could go through an hour of that and live,' he has had a training in one of the noblest of virtues, most necessary to a great or even a safe people; but it has not

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been altogether good for him. The gain in self-restraint, however, has no drawback. The boy who is in training for a match gains experience of the happiness and high spirits which result from eating and drinking what is best for him, rather than what he likes; and I am convinced that the most hopeful line of assault against both drink and immorality is the theoretical teaching and practical enforcement of the unnamed but cardinal virtue, which consists in the observance of physical laws and the avoidance of physical sins.

Drill and gymnastics.

I cannot place so high a value on drill and gymnastics as some do, though I believe that they should form part of the daily work of all schools. Drill is undoubtedly useful in giving a boy something of a soldier's training, teaching him to give prompt obedience to the word of command, and makes him hold his head up and avoid a slouching gait. And gymnastics do much in the way of developing the muscles, and of expanding the chest, though I think that the latter object would be equally achieved by the freer games, which are more conducive both to high-spirited health and to the development of individuality and initiative. In these remarks I have been looking at things from my own point of view as the headmaster of a school in the country. In town schools generally, games, such as football, etc., are not attainable every day, and often not at all. In such cases drill and gymnastics are of the first order of importance. Drill of an active nature should always, when weather makes it possible, be in shirt sleeves or gymnastic dress.

Boxing.

But boxing seems to me to be a better thing than either, and I am much inclined to give it the place once assigned to fencing and basket-stick exercises. Gymnastics and boxing both share with Rugby football the advantage of developing the muscles of the chest and arms; for which most games, including association football, do little or nothing.

Swedish exercises.

I thoroughly believe in what I know of exercises like Ling's for schools which have not abundant opportunity for gymnastics and various athletic games.

Cricket and hockey.

Cricket and hockey are both admirable games. They can be carried on later in life than football, and are available in all parts of the English world. They are both far superior as a social training to all selfish games, such as golf, and also as a physical training to all games which involve no running or quick movement.

Of the two, I think hockey is the more valuable. Cricket, especially now that, with improved grounds, innings have become so long, demands an expenditure of time which few can afford; and, personally, I confess that drawn matches or exhibitions of individual prowess, apart from the success of a side, have no interest for me whatever; and I think that the more games tend to become spectatorial, the less value they possess.

Handicrafts.

I think our eyes have been somewhat suddenly opened in this country to the great value of handicrafts. Such schools as Abbotsholme and Clayesmore have done a great service in this direction. Abundance and variety of occupation are not only useful in many ways which need not be particularized, but promote a healthy and vigorous life in those who might otherwise become aimless and frivolous. They also help to teach the dignity of labour, and form a most desirable link between brain workers and manual workers everywhere.

Voice training.

Voice Training.—I attach great importance to our work in vocal music. It is an excellent exercise for the lungs, and I think that the vigorous singing of robust music, such as the old Scottish and English Psalms and Hymn tunes, with a few of the best of modern tunes, Anglican Chants, choruses from Handel, Haydn, etc., and Anthems of the old English school, with again a few modern ones, does much to cultivate a really sound musical taste, and to make vulgarity and sensational extravagance distasteful. There is also something most invigorating to the spirits and the character in the singing of a great chorus; and I think that training boys to take a vigorous part in public worship is an important part of their education.

I have expressed my view as to rifle corps and cadet corps in answer to question 16.

Every boy, I think, should learn to swim.

Hand fives, in open courts, seem to me one of the most valuable of our games. It gives much exercise, not too violent, in a short time; it can be carried on late in life (witness Edward Thring); it does not demand much time, and it exercises the left hand and arm, as few of our games do. Bat fives and racquets are far inferior from the latter point of view.

I would like to see hand fives courts available for all our city clerks, and half an hour allowed for their use in the middle of the day. Its effects would soon be evident to those who care about our breed of men. But this, I fear, is an institution of Utopia.

9727.—9. What are the effects, moral, physical and intellectual?

Ans. 8 and 9. The results are that, from a sound physical system, many weak boys become strong; nearly all boys with tuberculous tendencies (all, I believe, if treated soon enough) get rid of them, and many, possibly a majority, become imbued with more or less distinct notions of what I may broadly call physical morality for the rest of their lives.

I believe also that the supply of pure blood to the brain, which is the necessary result of regular and judicious exercise, both increases its power for all good purposes, and does much to prevent the character being injured by weak sentimentalism, or by morbid and pessimistic views of life, which rarely exist in those whose bodily organs are in healthy and harmonious action.

Many games also, as I have already said in the case of football, promote the rapid exercise of the reasoning powers under complicated circumstances calling for immediate action.

9727.—10. Is a uniform system of physical training in schools desirable or necessary?

Ans. I certainly do not think that a uniform system of physical or any other training in schools is desirable. There is already, in my opinion, too great a tendency towards regulation and unification, and too little individuality.

Circumstances and surrroundings differ. For instance a school of 400 ought to have an excellent rifle Eight, and a high standard of rifle shooting generally. It ought also to have a very good band, glee club, pack of beagles, and other organisations. But if a school of 140 attempts all these things, the same set of capable upper boys have too many calls on their time and energies. Again, I think it a misfortune for a large school not to be near a river. Eton would have twice as many spectators lounging about the cricket field were it not for the Thames: and rowing ranks with football as a training of the qualities of endurance, pluck, and determination. But a river would hopelessly divide a small school.

But to take a wider line, originality is a necessity of true progress. And uniformity crushes out originality, and makes everything tend more or less towards the ideal which China has reached, and at which Germany appears to aim.

The only uniformity which there ought to be is a determination on the part of whoever presides over a school loyally to follow nature and truth, wherever they seem to him to lead.

9727.—12. What is the relation between mental study and physical training?

Ans. This is a question on which it is easy and common to express unverifiable opinions, but there are no data on which to come to a decisive and balanced judgment. There are, however, a few points which seem to me indisputable.

(*a*) An abundant supply of pure blood must be as conducive to a vigorous and normal condition of the brain as to that of any other organ of the body.

(*b*) Numerous instances may at the same time be quoted of men who have been and are eminent not only in Literature, Science, and Politics, but in positions requiring the exercise of those qualities of nerve, will power, and initiative which would seem to be most

nearly allied to physical vigour, who yet have not had any physical training worthy of the name, and, in some cases, have not been capable of it.

(*c*) There can be no doubt that the vigorous employment of the mental faculties produces very similar results on the circulation of the blood, and consequently on the bodily health, to those of physical exercise.

(*d*) This latter cause would be more evident in its operation than it is, if the work of brain workers was always performed in as pure air as that which is usually inhaled during physical exercise.

(*e*) Physical exercise, when excessive, as that of the ambitious athlete, often exhausts the system, and actually deprives the brain of a full supply of blood, by the undue demands made by the limbs and muscles.

Unfortunately, anything like an inductive investigation to determine the actual resultant of all these causes is impossible. The subject is surrounded by a multitude of side issues and cross considerations.

I shall merely give, for what they are worth, some facts which have come under my own notice.

I have carefully summed up all the honours of what I may call a First Class which have been gained by Loretto boys during my Headmastership of forty years. I include, First Classes or Open Scholarships at Oxford or Cambridge; Gold Medals, First Class Prizes, Open Bursaries, high degree distinctions at Scotch Universities; and appointments in the Indian Civil Service. Considerably above two-thirds of the entire list have been members of our first Football XV., which ranks highest with us as an athletic honour, and is the most closely connected with physical training of all our games. I have not included those who have passed into Woolwich and Sandhurst, because a large number of these have left too young to be in our XV., though several of them have gained that position before they left us.

When I was at Oxford, rowing occupied the place which football does with us. In our Balliol Eight, I remember there being four first classmen at one time, and I may say for myself, that being at the time in boating training was an immense assistance to my clear-headedness and vigour in the Oxford Schools.

In a most instructive paper in Vol. VI. of Government Educational Reports, by Mr George Sharples, on Physical Education in the English Board Schools, there is abundant testimony to the effects of such physical training as is inseparable from good football. Many of the teachers of Primary Schools have organised matches between the schoolboys of the large towns, and they speak decisively as to the effect, not only on the complexion and physical health and development, but on the character, language, and *schoolwork* of those who play.

At the same time, I have a great dread of overdone athletics and 'record' making of any kind.

Not only are the physiological effects of excessive exercise, and even of abnormal muscular development, calculated apparently to impair the general health of mind and body, and to shorten life, but to engender a feverish condition of excitement and dislike of all steady work, as well as bad habits of various kinds which I need not particularise. It is the typical athlete, from the days of Euripides to the present, who brings discredit upon physical training.

9727.—13. What is a just proportion of time to be devoted to physical training in relation to study?

Ans. This again is a hard question to answer. Many side issues are involved. I believe, *e.g.*, that the hours of sleep should be regulated both by age and by the season of the year. Boys, roughly speaking, up to ten or eleven, should have ten hours at least in bed; and during the chief growing age (*i.e.*, up to seventeen or seventeen and a half), at least nine in winter, and perhaps half an hour less in summer. These hours have often, I believe, been encroached upon to permit of sufficient time out of doors, and also for the numerous subjects required by a modern school curriculum.

Again, football or hockey requires only one hour, while to get sufficient exercise out of cricket, quite two, and out of golf, even more, especially on crowded links. But there ought to be a great deal of what I may call breathing time in the open air, besides what is spent in hard games.

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Generally speaking, I would say that six hours spent in actual study or preparation, one in drawing or singing, ten in the bedroom, one and a half at meals; one in unoccupied time after meals, half an hour at prayers or school assemblies, half an hour in the gymnasium, leaving two and a half for games and fresh air, and one for entirely leisure time.

This estimate is, of course, subject to the variations indicated above, but I think it gives the minimum allowance consistent with due attention to robustness and vitality.

On Saturdays there is, of course, more open air, and I think that all schoolboys should learn to take a good walk on Sundays, if only to keep up the habit of walking as an exercise.

Physical exercise daily

9727.—14. Is physical training most advantageous if carried out daily in connection with school work?

Ans. Certainly, I think the two should go together. Nothing can be a worse habit for life than taking no exercise one day, and too much another. Exercise should be, like meals and sleep, part of the daily business of life, till the desire for it becomes an irrepressible instinct.

Outdoor and indoor training.

9727.—15. What are the respective merits of outdoor and indoor training?

Ans. They seem to me to be like food and drink, both equally necessary to well-being. Indoor life is less injurious the more it is associated with absolutely pure air, and a temperature never artificially raised above 55° or 56°.

I regret to say that these conditions are often frequently violated, not only by the world in general, but by schoolmasters, chiefly because they work in overheated studies; and even by scientific professors, lecturing perhaps on the sciences which are supposed to do with health to students who are suffering from gross violations of the principles of ventilation and of heat economy. If science were applied to the well-being of man himself, as rigorously as it is to the improvement of his material surroundings, such anomalies would not occur.

9727.—16. Should some form of military drill or training form part of the ordinary curriculum of every school?

Military drill and training: dread of War Office interference and regulation.

Ans. As I have said before, I think that drill should form part of the regular business of a school, and that as many boys as possible should be trained to be good rifle shots. I further believe in boys camping out when the time can be spared, either during term or holidays, under something like military discipline, and learning to do everything for themselves which has to do with tent life.

But I am much opposed to anything which shall further interfere either with the studies, or the games, or the manual work and other occupations, or the already brief leisure time of school life, and still more so, to notions of military smartness bringing about any obstruction to the free play of the lungs or the free movements of the limbs; in fact, boys have clothes enough already; and for rich and poor alike, I object to any special clothes for their 'playing at soldiers,' just as I have effectually objected to all distinctive athletic millinery not absolutely necessary for the purposes of games. General Sir Hector Macdonald reviewed the cadet corps of Wanganui School, New Zealand, in grey flannel shirts, bare necks, and short trousers. He said it was the best uniform he had seen, with some sort of loose jacket to put on when required by the weather. I particularly approved of this, because it is also the best wardrobe for a cyclist. But, generally speaking, I have apprehensions as to the results of encouraging the military spirit in schools. We wish to teach our boys to think for themselves, to appeal to reason rather than to custom and prejudice in all they do. And I fear that the military spirit has been, hitherto at least, productive of cast-iron regulations, and opposed to what is rational, individual, and unconventional. If I could have a school cadet corps, equipped and accoutred

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without any interference from the War Office, and trained to exercise initiative and common sense, my present views might be modified, but I believe in development after the model of a rifle club (*vide Spectator*, August 23) rather than after that of a cadet corps.

9727.—17. What system of physical training is, in your opinion, the best?

Ans. I think that this question is answered in the course of others.

I have treated questions 18–21 as general only as far as I could.

9727.—18. As distinct from physical training, what physical education is given in your school?

Physical education: theoretical education the proper and essential supplement to physical training.

Ans. I am not sure that I fully grasp the scope of this question, but I take it as referring to teaching boys the principles of their physical training.

At all events it is not alien to the present enquiry, if I say that, in all classes of schools, one of the most, if not the most, important subject of instruction is what I may call the science of life; the importance of pure air, and how it is to be secured; the laws of heat economy, and how they are to be observed; the physiology of exercise, and the evils both of excess and defect; the way in which common maladies, like colds and chills, can be avoided by its means; the reasons why any hard exercise should be taken in flannel, and not in any cotton fabrics; something of the chemistry of food, and of the secretions which help digestion, and the practical rules deducible from such knowledge. All these things are more important for boys (and girls) to know than the dates of the kings or the nature of adverbial clauses. If such an education as this were given in all schools, as a necessary and prominent part of education, we would no longer hear of children in the Highlands and other country parts being fed on tea and white bread and tinned meats: of the consequent want of freshness and rosiness and hardiness of the present generation; nor would children be kept at school in towns during winter months with little more open-air exercise than what they get by climbing up and driving on a tram car.

I suppose, for my own part, that there is scarcely a day on which I do not speak to my boys on some point which has to do with the *rationale* of their physical training, or insist, from the standpoint of practical Christianity, on the duty of avoiding 'physical sins,' when known to be such. And further, I believe that laying such a foundation of physical morality presents the best chance of resistance to the formation of drinking habits in after life. Teach a boy why his stomach should have periods of repose, and, therefore, why he should not eat or 'grub' between meals, and he is less likely to be subject to a craving for 'something,' which afterwards will only be appeased by stimulants, and he will not only have formed the habit of controlling his appetites, but he will have learned why he should control them, and also have experienced the effect of such self-mastery on his bodily vigour. It would be easy to multiply illustrations, but I think I have said enough in support of the thesis, that theoretical education is the proper and essential supplement of physical training.

Experience: results.

9727.—19. What are the results of your experience regarding physical training, games, etc.?

Ans. It is difficult to make any definite statement as to results of the nature indicated. The results of the training of any school are evident only to those who are largely acquainted with its output.

But I may mention one fact in this connection which has no exclusive reference to any one school.

Generally speaking, physical training is more organised, and the duty of daily exercise, both in the open air and in the gymnasium, is more rigidly enforced in the Scottish public schools than in most of the English ones. And the result of such training is more directly manifested (for schools which have no river) in Rugby football than in any other game or exercise.

Now, in a list which has lately appeared in an English journal, of what are called Rugby Blues, or men who have played for Oxford or Cambridge in their annual match, two Scotch schools take the first two places by a large majority, though their united numbers do not equal those of a large English school.

There is no other possible cause to account for this except a better physical training.

Some other points of importance fairly come within the scope of this question.

Games: system i truly recreativ educatio

(1) It is a common-place that 'games injure work.' I object to the antithesis. Games are only one of a number of means towards a physical training, which again implies and involves physical work. If the chief end were amusement, the present prominence given to games would be indefensible. Amusement, and its resulting high spirits, are certainly excellent things. But the energy, time, and money spent on this particular sort of amusement would be wickedly excessive, if cricket and football were in the same category as balls and picnics.

Runs in the rain are certainly not an amusement, though the recompense of the after-glow is soon discovered; football is rarely an amusement to a boy fresh from home. He would usually rather be in school than in a scrummage. But the resulting joyousness, akin to that of war, is usually a plant of quicker growth than the deep delight in great literature, which is slowly but surely imbibed by those who have become saturated, as it were, with Sophocles or Homer, by the arduous process of translation. And as the delight from active exercises comes sooner, and is more visibly displayed than mere intellectual pleasure, the idea of amusement has become connected with the former, and that recreation is one main purpose of the latter has been forgotten.

(2) It is said 'Does this not result in too much talk 'about games'? Archdeacon Wilson replied to this, 'What do French boys talk about'? I doubt whether, when boys are gathered in hall, or men in smoking room, much more edifying subjects are, or ever were, the staple of conversation. Any one who really gets to know boys becomes aware of the enormous variety of topics in which they take interest, and about which they will talk freely when alone or with one or two congenial friends. But such subjects of individual interest would not be suitable for general social talk and badinage in the school world or in any other.

(3) A result of the present position of the great games is that they really do give an education in observation and reasoning of no mean order.

In a discussion, to take one point as to when it is advisable to take first choice of innings at cricket, or the choice of ground and wind at football, the number of logical or fallacious processes, both inductive or deductive, which occur in such arguments, are as numerous and as educative as if the discussion concerned politics or casuistry. School politics, indeed, have often been proved to be a good training for those of the bigger world.

(4) The tendency of some of our great games to become spectatorial, which is deplored by every man of sense, and which really constitutes a national evil and danger, is not fostered by a sound system of physical training and education, but the very reverse. The man who, as a boy, has been taught the duty, and experienced the advantage and pleasure, of taking exercise for himself, of a kind suitable to his age and circumstances, is not likely to sit or stand during a Saturday afternoon, as spectator of a gladiatorial show, unless he can otherwise secure his own personal exercise. For my own part, I have not witnessed a cricket or football match for very many years. I require the time for my own exercise.

9727.—20. Are they at present sufficiently organised and supervised?

Games m be proper organised with indi ual libert

Ans. Generally speaking, not at all properly organized; nor are the principles on which such organization rests sufficiently recognised. At the same time, in all future organization care must be taken to avoid the evils of over unification and regulation, and to leave free scope for fresh departures and experiments, and for individual freedom and variety.

9727.—21. Are the teachers themselves duly qualified and instructed?

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Ans. My experience as to this is very limited. So far as drill, etc., is concerned, I engage one sergeant-major instructor permanently, and another partially for 140 boys. The one is more proficient in gymnastics and boxing, and the other in rifle drill and shooting. I presume that other public schools have similarly efficient instructors. We have also had the same cricket tutor, certainly a competent one, for thirty-two years, with an assistant in summer, and they are ably aided by several of the staff And at least three members of our staff are fully competent either to coach and referee or to play on football sides The vulgar and ridiculous reproach that schoolmasters are chosen for their 'athletics' is founded on the truths that, in order to bring out the educative element in games, there must be some experienced and rational instruction, and that many reasons make it desirable that some masters should take part in the great games, and not be conspicuously inferior in them to the leaders of the boys.

For other schools I can speak to the splendid work done by the late lamented Mr. Burgess at Merchiston, by Mr. W. W. Anderson at Watson's College, and many at Fettes College, Edinburgh Academy, and other schools. But how far masters at Scotch elementary schools take an interest in the physical education of the children I cannot say. The number of closed windows in too many cases is an indirect evidence to me that things are not always quite as they should be, for open windows are an unfailing index of a man who cares for physical education. For the great work which is being done in many English primary schools I have already referred to Mr Sharples' paper.

9727.—22. Are the pupils examined by a medical man?

Ans. All our boys are examined by our school medical officer on first entry, and his report comes to me in the doctor's book. He there enters any intimation which appears to him desirable as to boys being exempted from particular games, runs, or other exercises. His word is final.

He also, or his partner, makes daily visits to the school, and sees every boy who is suffering from any ailment or accident, or who wishes for advice as to his exercise. These reports come to me in his book.

Such reports reappear in 'The Medical Ledger,' in which each boy has his own page, so that I can see the medical history of a boy at a glance.

9727.—23. What kind of medical examination is made, and how often?

9727.—24. Is a school register kept, showing the height, weight, chest girth, spirometry, biceps' girth, and general physical development of the pupils?

9727.—25. If so, how often are these measurements taken, and by whom?

Ans. 24 and 25. Measurements are made three times annually of weight, chest girth, height, girth of upper and of lower left arm. The reason for registering the left arm is because it is apt to be neglected, and it is as well to register the united effects of gymnastics, Rugby football, and fives.

Every new boy is also measured similarly on his arrival. New measurements are entered in a book, from which typical extracts are sent, the boys of each age at last birthday being on a separate page.

Spirometry does not appear in the register. It probably ought to be attended to, but I am unwilling to increase the time taken up in measuring, and chest girth answers nearly every purpose.

There is also a physical ledger, in which the measurements of each boy are re-entered on a separate page.

This is of the greatest possible service. I frequently inspect it, and whenever a boy's chest girth is standing still, especially at too low a point for his age and height, I have his lungs sounded by our medical officer. In many cases unsuspected delicacy has been thus detected and the right measures to set things right adopted in time. Our medical officer or myself could give details of one such case, which is certainly one of the first cases on record of the cure of incipient tubercular disease by the open-air treatment, in which, I need scarcely say, all my experience makes me cordially believe.

9727—27. What remedies or suggestions have you to propose regarding the last part of the terms of reference, viz.—How the existing opportunities for physical training may be increased by continuation classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus to contribute towards the sources of national strength?

Ans. Before attempting to answer this question, I hope it may not be out of place to say a few words about the last clause.

Subject-matter of enquiry of national importance.

The whole subject matter of this Commission seems to me of such overwhelmingly national importance, and the subordinate place which it has hitherto occupied so full of danger to the country, that I have rejoiced at its being brought into prominence by the appointment of the Commission.

My reason why it is of so much importance is because at least three causes are in operation, all tending to lessen the amount both of bodily exercise and of open-air life.

Deterioration of race: causes: remedies.

These are—1st, The gathering of the population into towns and the comparative desertion of the country; 2ndly, The growing substitution of artificial means of locomotion for the use of the legs; 3rdly, The continually increasing extent to which manual labour is supplanted by mechanical appliances both by land and sea. The only escape from the deterioration of our race, which is the natural result of these causes, and which is already evident at least in our cities, is that the exercise of the limbs and breathing organs, which used to be necessitated by the daily work of large masses of the population, shall be taken by them in the way of recreation, or from a sense of the necessity of such for the exercise, health and enjoyment of life.

And I am persuaded that, if the general principles, which I have attempted to lay down, were once cordially recognised and brought prominently forward in Parliament, press, pulpit, and on platform, that an innumerable number of ways by which they could be carried into practice and made the source of untold blessings to our people would gradually open out.

And again, if such truths were inculcated and practised in all grades of schools, healthy habits of all kinds would become a second nature to the large mass of the pupils, and there would spring up the habit of regulating the actions of daily life by reason rather than by blind custom. In particular, I am persuaded that daily physical exercise usually engenders a craving for it, which will avail itself of all outlets and opportunities, and in strong-willed natures will make opportunities in spite of apparently overwhelming obstacles.

Continuation classes.

Such outlets and opportunities should be provided, in all large cities at least, in the shape of continuation classes for gymnastics and drill, in suitable, well-ventilated and never over-heated buildings. They would be abundantly taken advantage of if the spirit of the previous education was such as I have tried to sketch.

And no public money could possibly be better spent than in providing such facilities.

Regular attendance and proficiency at such classes should, I think, be allowed to reckon towards Volunteer and Militia drill, but I am too imperfectly acquainted with the subject to speak confidently here.

Suggestions: sound system of practical and theoretical education

It is also incumbent upon us, so far as legislation and education can bring it about, to provide not only that every possible opportunity shall be given to young people of all classes towards forming the habit of regular exercise, but that its physiology and advantage should be impressed upon them, in connection with corresponding and independent truths about food, air, sleep and clothing, which have generally been almost totally neglected in schemes of education, and consequently about which grievous errors have been prevalent, and in many cases enforced by custom

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sometimes even by authority, in the daily life of the vast majority of our people.

And at the base of all such instruction and training I believe that the duty of conforming to known physical and physiological laws, and of avoiding physical sins, should form an integral part of all religious education which is given in schools, and be firmly rooted in the minds of the young on a religious basis. The sin of excess in drink would then, in their minds, rest on the same foundation as the sin of physical indolence, or of the compression of the breathing or other organs by tight clothing, or of indulgence in excessive or unwholesome food. And far more good would be effected by all these and other departures from truth and nature being seen to result from the neglect of the same general principles of theory and practice than by some of them being attacked, in an isolated and sensational manner, and others either ignored or treated as of no practical importance.

I see the question has been put whether there should be any compulsory powers with reference to such classes or attendances.

Continuation classes; compulsion undesirable.

Putting aside the practical difficulties and great unpopularity of such compulsion, I believe it to be entirely unnecessary, for the reasons which I have given. And I observe that Mr J. L. Robertson, who has had far better opportunities for forming a judgment than I have had, says such classes would be extremely popular.

Compulsion would strike at the root of such popularity; it would rob the exercises of all spontaneity and joyousness; it would introduce an element of grumblers into such classes, who, even when in a contemptible minority, rub the bloom off all good things, and would be a step towards the spirit of unification, regulation and regimentation which prevails among some Continental nations, and which, I trust, may not make any further progress in this country than it has done already.

Uniform system inadvisable.

9728. I think it would be rather interesting if you would elaborate a little more your statement that you don't think that a uniform system of physical or any other training in schools is desirable?—In saying that, I mean that I don't think it would be a good thing if the same cast-iron system was put in force all over Scotland. There should be individuality and independence in the different schools.

9728A. But you do approve of the same system obtaining in each school?—Certainly; within each school you must have the same training, but I don't think that there should be the same cast-iron system applied all over.

9729. Do you apply that to all schools of different classes in Scotland?—I think there must be differences in the systems for different classes of schools. I have had some communications with the headmaster of Fettes about that, and he is very strong indeed on our keeping our individuality. The schools should keep their own individualities, and one school should not be the exact counterpart of the other. We don't want it to be as in France, where the Minister of Education can say at any moment what every boy is doing.

9730. Would you apply that to Board Schools?—I don't know enough about them. It is twenty-five years since I was a member of a School Board, and I would not like to give an opinion about that. The more individuality there is about it the better I would like it.

Military drill or training. Soldiering at school undesirable.

9731. Then, in answer to the question as to whether some form of military drill or training should form some part of the ordinary curriculum of every school, you give your opinion that you rather deprecate any military work, as military work, on the part of schoolboys?—I am inclined to advocate what tends towards military work, and helps for that, rather than soldiering at school. I think the drill that we are doing, of which I have given an account, very much helps, as I have been told by old boys. The drill, although it is not entirely military, is conducted by military instructors and on military principles, and I think it helps very greatly. I think there should be a great deal more rifle-shooting, as it is the most important thing of all, and that we are doing.

9732. You say that you fear that the military spirit has been hitherto, at least, productive of cast-iron regulations, and opposed to what is rational, individual, and unconventional. You mean that to apply to boys as boys?—I think it applies generally; I rather speak of the general military spirit. What I have said has been based greatly on evidence taken from old boys from our school who have been in the volunteers and the line, and also evidence that I have got from the military colleges on many things.

Measurements: an increase of chest girth: causes.

9733. Is there any point you would like to supplement?—I think there is one point with reference to a matter which I have made my particular study—the matter of chest girth referred to in my evidence. I have kept these registers that I mention for a very long time. My attention was drawn to the matter very much by a letter, which created a great sensation, appearing in the *Times*, by a very eminent Public School medical man whom I won't mention, although I know his name. That letter appeared in 1898, and in it he said that of many hundreds of boys examined by him, I think 64 per cent. of those who entered the school for which he acted as medical officer were in bad condition. I replied to that letter that it was quite true that boys were not coming in as good condition as they ought to be if properly brought up, but things were very much better in my experience than they had been many years ago. I need not trouble you with my detailed evidence. In the matter of chest girth, I can give evidence from the time when our records began in 1874 down to the present time. There is fully one inch more in chest girth in the boys who come to us at all ages.

9734. Can you attribute that to anything?—I think it is partly due to the fact that preparatory schools have had much more outdoor exercise, and there may have been a great deal done in the other schools. For instance, in Edinburgh Academy there has been a great deal done. In this matter of chest girth I would say that there is a very great improvement in the condition of the boys who come to us compared with what it used to be. Of course we draw more from preparatory schools than we used to do, and they are better managed than they used to be from that point of view. I think that the improvement is very great, and I can give figures for it which I have analysed very carefully. There is another point on which I would like to say a word, and on which, I think, I can give some facts—that is the influence of games in promoting military spirit. I think that football in particular does a great deal to prepare men for military life. We had 47 old boys at the war in South Africa who had not got into the Army by the regular routes. Of these boys 31 had played in our school fifteen. Now a boy is not generally big enough for our fifteen unless he is over seventeen years of age, although there are sometimes boys of fifteen or sixteen. Of the remaining 16 boys who had not been members of our fifteen, there were only 4 who had been over seventeen when they left school, and two of those were very small boys, one very delicate, and the remaining one nicknamed 'The 'Ghost,' so that every one of those who volunteered for South Africa and had been eligible for our school fifteen had played in it. You might ask what proportion of our boys are not in our school fifteen. In our last returns we had 55 boys over seventeen, and it stands to reason only one-third of such boys can get into the fifteen. I have instanced football because I think it has so many qualities, not only physical, but such qualities as readiness of decision, and I think it fosters the desire for active service more than anything else that we do—I would say even more than drill or gymnastics.

Games influence promoting military spirit.

9735. *By the Hon. Thomas Cochrane.*—I think you are an athlete yourself?—Never very much of one, but I was in the Balliol Eight. I attribute any success I had to my boating training, but I cannot call myself an athlete.

9736. You found what you say in favour of physical

training on your own experience?—Yes. I would not have the vigour that I have if I did not take regular exercise.

9737. Among the advantages you mention in one of your answers is a gain in self-restraint?—Yes; matters of eating and drinking, and generally in having to do things which are temporarily unpleasant in order to gain a future end. I think there is a very great gain there. I experienced that when boat training, and I found a great advantage. Advantage is to be gained even in abstaining from tobacco and sweets, and things of that sort.

9738. You are hopeful that physical training might strengthen the population against the assaults of drink and immorality?—Yes, I think so. You should teach children, using the word in its broadest sense, the grounds on which this training is good for them, the grounds on which the not eating between meals is good for them, and many things of the same sort. We should teach them the theory of the thing as well as give them rules for practice. I think it would do an immense amount of good, and it would make them believe in it.

9739. From your experience you think it would strengthen them morally and physically?—Yes. Of course it has not that effect on everyone. You will find a number of failures under any system, but I think the general effect is, if you make a boy believe in the rightness of doing certain things, he is far more likely to cultivate good habits than if you don't make him believe in them. I think that Miss Louisa Twining, who is an old lady of over eighty, said a very forcible thing in a letter to the *Times* the other day. What she looks upon as a thing of the greatest importance is the teaching of the laws of life and health, which should be given in our schools. I believe that is the groundwork of it all.

9740. You give certain exercises that you think very advantageous, and among those you include boxing, fencing, and single-stick?—Yes, boxing most of all.

9741. You find it is a good training in keeping the temper?—Yes, I think it is. There is not very much danger now from temper, but it is a training in temper, and so is football, and so, I may say, is golf, but whether it always succeeds or not is a different matter. The difficulty about golf as a school game is that it is so difficult on a crowded links to get sufficient exercise, as there is so much standing about. I think it is an admirable thing for holidays, but I don't think it cultivates the moral qualities. It does not cultivate the social qualities, for instance. It is very selfish.

9742. You say that you have not found that physical exercises have had any effect in interfering with scholarly success?—That is so. I think it is rather the contrary. Of course I cannot say so much about that as the headmaster of Fettes, because we have no entrance scholarships in our school, and it is very seldom that we get any of the better intellectual material. The headmaster of Fettes gets far more boys of ability than we have.

9743. Your own experience is that a certain amount of physical training is not detrimental?—It certainly is no detriment. It was not so at college.

9744. You place some considerable importance upon the subject matter of this Commission?—Certainly.

9745. You give certain reasons why you think that the race is likely to deteriorate, or has deteriorated?—Yes, I think it has.

9746. You attribute that to the gathering of the population into towns, the growing substitution of artificial means of locomotion, and the increasing extent to which manual labour is supplanted by mechanical appliances, and you consider that the only escape from the deterioration of our race is that further opportunity should be taken by the population in the way of physical exercise and recreation?—Yes.

9747. Does it come within your knowledge to suggest any means of physical exercises for the general population outside your own school and outside the Board Schools?—It is very difficult to answer that generally, but if you have, what I most of all advocate, the principles on which exercise depends, and the principles of life and health taught in all schools, then the subject will work itself out. The great change in popular feeling will find out ways by which progress will be made. When I was a member of the School Board, twenty-five years ago, I proposed that there should be drill for the children, I think two half-hours a week. The chairman at once said that we should now proceed to some practical business, which I think was the grant. I don't think that would be said by any chairman now. There has been a great change of opinion, and that is fortunate. I think, without being able to lay down at a moment's notice any general means by which the thing can be done, if there is the will there will be the way.

9748. You think that by letting the people know that more physical exercise is required such interest will be taken in the matter that some means will be found?—Yes, and by successive generations of children being taught it. It applies not only to exercise, but to food and everything else.

9749. At the end of your evidence you hope that it won't be necessary to make attendance at continuation schools compulsory?—I am opposed to such compulsion.

9750. If facilities of such classes were given, you think they would be availed of?—Yes, increasingly.

9751. *By Sir Henry Craik.*—The scholars in your school are drawn from a good social class, of course?—Yes.

9752. They have been accustomed to behave themselves as they ought to behave?—Yes, generally.

9753. That, of course, is an essential condition of satisfactorily carrying out games?—In general it is, but a great deal has been done in that report of Mr Sharples in carrying out games in particular schools.

9754. In connection with that report, was your attention drawn to the fact that the boys of whom he speaks were frequently taken to compete before crowds, I think on one occasion before a crowd as large as 20,000 people, at a football match?—Yes.

9755. Is that good for the boys?—It is dangerous, but not necessarily bad. Whether the spirit could have been got up without it, I don't know. Mr Sharples and a number of others say that they give us their evidence that they notice a very great improvement in those boys who did join in these big matches, not only in physique, as you would expect, and high spirits, but also in their language, which very much surprised me, and their general tone.

9756. Do you think that their language would be improved?—I would not have thought so, but perhaps it was on the same principle as the Spartan helots, that they were disgusted. That is the evidence given by Mr Sharples and a number of others.

9757. In the games in your school how do you deal with boys who are weak in health, and recommended by the medical officer not to take part in them?—They can do all sorts of things. A boy who cannot play football may play fives.

Board schools in towns: most important to have regular system of physical exercise independent of games.

9758. In the schools we have to deal with there must be many children who in a game would be thrust aside by the stronger, and might get injured or be discouraged from taking part in the games at all?—That is so.

9759. To meet the case of such boys, is it not important that there should be some regular physical exercise entirely independent of games?—Yes, but I think I have said so. I say somewhere in my evidence that in schools in towns the same system would not apply. It is most important that there should be physical exercise. I think that boys who cannot do games should do more drill, and take long walks in the country. In towns these boys might have extra work in the gymnasium, although I think it is better that they should be in the open air. However, I don't think that that is as good as games.

9760. Don't you think that drill will probably be found a more essential thing in regard to the great mass of the children in our town schools than games?—Probably it is. I am not sufficiently acquainted with those schools to be able to say that I think that it is most important.

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9761. What I wish to bring out is this—you agree that in dealing with those large public schools the question of physical drill occupies a more prominent position than it would in a school like your own?—Yes, but in George Watson's, I have known them turn out eleven fifteens on a Saturday.

Uniformity: in certain circumstances necessary.

9762. Dealing with the question of uniformity, do you not think that when an immense number of children are taken, when teachers must move from one school to another to take part in the instruction of a new school as well as the old school, that it is well that there should be some system which they understand, and which can be followed?—That is the case.

9763. So you are not altogether opposed to uniformity?—No, there are circumstances where it is necessary; but what I object to is the forcing of uniformity on schools where it is not necessary, enforcing uniformity on them when they could take lines of their own.

Compulsion: necessary for education of those between five and fourteen: after fourteen should be more freedom.

9764. With regard to the question at the end of your evidence as to compulsion, are you opposed to all measures of compulsion in education?—No.

9765. You are not opposed to it in the case of boys from five to fourteen years of age as under the present education system?—That is a very big question. I have very grave doubts as to whether compulsion should have been carried further than the three R's, but I think there is some compulsion necessary, although I don't share the general opinions about compulsion in education.

9766. Don't you think it is a very important thing that a boy should be required during his earlier years to attend school, and not to be left on the street? Do you not agree with that?—I am very much afraid of compulsion destroying the feeling of liberty, but, generally speaking, it is desirable that boys between six and fourteen should be forced to attend school.

9767. And when they get to fourteen, would it be a very hard thing to ask boys between fourteen and eighteen to give two or three hours one or two nights a week to what is certainly by common agreement for their great advantage?—I think that in country districts it would be practically impossible to get that done.

9768. Are you acquainted by experience with the mass of town boys at that age?—No, but I think, as I have said, that if they are trained in the advantages of it, and have physical exercises at school, they would continue it without compulsion.

9769. Can you ever get boys to learn reading, writing, and arithmetic by teaching them that it is useful?—No, but you are dealing with boys of an earlier age. There are two classes, viz., between five and fourteen, and between fourteen and eighteen. In the class between five and fourteen I admit that there should be a certain amount of compulsion, but over that there should be less, and there should be more freedom.

9770. You are not sufficiently acquainted with that class of boys to say whether, if anything is to be done, compulsion is required?—No, but I would be very sorry to see it extended to all classes.

Evening classes: certificates of proficiency in drill and rifle shooting might count for volunteer and militia work

9771. Would you be surprised to know that employers have told us that they thought that the usefulness of these boys would be greatly increased, that their prospects of a happy life would be greatly added to, if they were required to attend evening classes?—I don't like the word 'required.' I think that so many of them would attend if they were properly educated before that it would not be necessary, and I adhere to what I have said at the end of my evidence.

9772. But if they did not attend?—Then that would be for future deliberation, but it would be very difficult to get a law to apply to both town and country, and to all classes. I think this might be done, that if the boys could pass certain examinations in drill and rifle shooting that might count for volunteer and militia work, and that would greatly aid such things in school, and make something to be gained by doing that.

9773. *By Mr Alston.*—Can you tell us the number of hours per week that your boys get for other work than study?—I would not like to do that without reckoning up. I have given it already per day, and our days are very much the same except Saturday, which I have particularised.

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9774. I find that in your evidence you state, 'Generally speaking, I would say that six hours spent in 'actual study or preparation, one in drawing or singing, 'ten in the bedroom, one and a half at meals, one 'in unoccupied time after meals, half an hour at prayers 'or school assemblies, half an hour in the gymnasium, 'leaving two and a half for games and fresh air, and one 'for entirely leisure time'?—That is every day except Saturday and Sunday. On Saturdays, as I said, there is, of course, more open air. The boys are in the school on Saturdays up till 12.30.

9775. You arrange these exercises so that they shall produce the greatest amount of good?—Yes, so far as we can.

Drill instructor.

9776. You have given more attention to games than to military drill or physical drill in the military form?—Yes, but I think we have done a good deal towards drill. As I have already said, drill is taught by a resident sergeant-major instructor. We are extending our rifle shooting very much.

9777. This drill is taught by a resident sergeant-major instructor. What are his qualifications?—I got him from Colchester. He is a very good gymnast, and knows well about military drill.

9778. Is he the same as the resident instructor in the gymnasium?—Yes. There is another, a sergeant-major instructor of the Musselburgh Volunteers who gives two big open-air drills weekly in the summer term. There were some reasons that I had for employing this man for the big drills.

9779. Has this instructor been long out of the army?—I cannot say how long.

9780. You cannot tell his qualifications? Suppose he were examined by competent men, what would be the verdict pronounced on him?—He came to us in 1899, and I had the very best testimonials about him then. We had had the same man from 1874 till 1899, and I thought he was evidently getting rather old and stiff, and rather behind the time, but he was an excellent man. I think this present one is a great deal more up to the times. In selecting him I did the best I could, writing to the best military men in Aldershot and other places so as to get the best man I could.

Exercise: disinclination of boys at first.

9781. In answer to the question as to how far the opportunities for physical training are taken advantage of, you refer to the disinclination generally of boys for exercise, and you use the expression that they have been carefully trained at home to avoid the possibility of being hurt?—I said that when boys first come to us a great many of them are much disinclined for much exercise which involves much exertion or discomfort or the possibility of being hurt. They have been carefully trained at home to avoid such things. That is quite true of a good many of them.

9782. In regard to Scottish boys?—It is worse with English boys than with Scotch boys. As I have about equal numbers of both Scotch and English, I can say that the Scotch boys are more hardly brought up than the English boys. I have enquired about that from other schoolmasters, and it seems to me proved that the further south you go the more softly are they brought up.

9783. We would expect that phrase to be used in reference to a French boy, but not in reference to a British boy?—It refers to a good many of them, but they are not so bad as the French boys.

9784. When once they enter these games and exercises, do they lay aside all fear of weather or hurt?—Most of them do.

Uniform system allows scope for individuality.

9785. While you don't approve of a hard-and-fast system of physical training instruction, you refer to Ling's exercises. Is there anything special in them?—They are Swedish: they are formal exercises. I think there is this disadvantage, that they do not encourage the same qualities as games encourage.

9786. We have had the methods of physical instruction before us, and many have given evidence upon that point?—Yes, I have read it.

9787. You notice the difficulty we have. We have so many manuals of physical training that the question is, should one not be fixed upon as the best, say the Aldershot system?—I cannot say.

9788. You have not any objection to an ascertained best manual being introduced?—No, if there is plenty of scope left for individuality.

Military drill approved: Apprehension of War Office

9789. In the matter of military drill in connection with the cadet corps, you object to the uniform?—Yes. As a life member of the Lads' Drill Association I made a very strong representation to Lord Meath about the nature of the uniform. I object to its being so tight across the chest and being so cumbrous. The Association applied to the War Office and got leave to have a uniform which is just a simple jacket. That removes a good many of my objections, but I would rather be independent; I would rather go in for a rifle club than a cadet corps. I would not have any more clothes than we have got. I think it is a pity that military drill is so much associated with uniform. I think there should be no uniform.

9790. It is an advantage that they should have the full military drill, but you do not think that there should be special military clothing?—That is my opinion. You might have a uniform shirt as they have at Wanganui in New Zealand, where they have a grey flannel shirt, bare necks and short trousers.

9791. In the report of the Lads' Drill Association we had pictures of those boys drilling in flannel shirts?—Very probably I have seen it. I have had a communication about it with the headmaster.

9792. In your evidence you refer in a complimentary way to two Scotch schools which take a very high place, and you add that there is no other possible cause to give for this except the better physical training. Is that the physical training got in the Board Schools or in the public schools?—In the public schools. I would rather not mention the names of those schools. I think our system in the Scotch schools, perhaps from the competition, is better than it is in England. I may mention Merchiston Castle school and Fettes school. I think it is much better there than in England. I have had most deploring letters from doctors of English schools stating that boys get far too many exemptions, that there is too little compulsory exercise and too many means of getting free from it.

9793. Does your remark apply to the public schools generally in Scotland or to a few special ones?—To a few that I know well.

9794. In Scotland generally less attention is paid to physical training and to organised school games than in England. Is that not the case?—I don't know.

9795. At one time it was, but perhaps things have altered for the better?—It is not the case with regard to the schools I know. I am speaking only with reference to those schools in the same line as English schools.

9796. That is residential schools?—Yes, and also the Edinburgh Academy and George Watson's.

9797. In the old days the Scotch public school was a day school?—Yes. Edinburgh Academy and George Watson's are both day schools, and there is a lot of physical work being done there with great advantage.

9798. That must be an improvement of recent years?—Yes, within the last six or seven years.

9799. You referred to the continuation classes, and said that you were quite convinced that they would be abundantly taken advantage of if the spirit of the previous education was such as you had sketched. If it were not, what would happen?—I think that is the root of the whole business, that all the Board Schools ought not only to train their pupils in good healthy habits, but to teach them the *rationale* of such habits.

9800. And boys over fourteen would go to these continuation classes?—Yes.

9801. Not only for the interest of the teaching there, but from the instruction they had received?—Yes. I think one of your witnesses, a Scotch inspector, gave the same evidence.

9802. At the same time there has been a good deal of evidence that nothing would tempt them to go to continuation classes?—As they are.

9803. That is why the question of compulsion has been put so strongly before you, from the feeling that it would be required if they are to come in?—It might have to come in if the other ways failed.

9804. *By Mr M'Crae.*—You say in your evidence in answer to the question as to whether some form of military drill or training should form part of the ordinary curriculum of every school: 'I have apprehensions as to the results of encouraging the military spirit in schools.' Will you explain a little more fully what you mean by that phrase?—I think I rather gave my reasons. As I said, we wish to teach our boys to think for themselves, to appeal to reason rather than to custom and prejudice in all they do, and I fear that the military spirit has been productive of cast-iron regulations. I think that encouraging the military spirit might have a tendency to do away with freedom and individuality in schools.

9805. You are aware that the whole tendency of modern drill is towards developing the individuality of the soldier?—I am very glad that that is so.

9806. Suppose that it is so, would that alter your view with regard to drill?—Yes, to a great extent if they got rid of the idea of tightness being necessary to smartness. If I could get the sailor idea of smartness instead of the soldier idea I would be satisfied.

9807. You object not to drill itself but rather to the red tape of the War Office?—Yes. We have big drills twice a week and drill every day, so that I cannot object to it.

Rifle clubs *plus* drill.

9808. You recommend the formation of rifle clubs?—Yes.

9809. It is very important from the patriotic point of view, but it does not produce the same benefit in physical training as ordinary drill?—No, but it should be taken along with drill. There have been great difficulties about a range. Our only available range is on the sea coast, and we can only use it at high tide. It is often not available, but of late the invention of the Morris tube has greatly facilitated matters. Even although it does not do everything, it does a great deal. We are going to have one of our own. I think that shooting is most important.

9810. With regard to physical training in public schools, such as your own, is there anything you could propose whereby that might be encouraged or developed, or do you think that you have enough at the present time?—We have enough, but in everything we must look for improvements.

Board Schools: recent improvement.

9811. You can understand that a different system may be necessary with regard to Board Schools?—Yes.

9812. You have not the same opportunity there of conducting a school on individualistic lines?—No, but the same spirit might prevail. I think they have greatly improved. You could hardly find schools like what they were twenty years ago, when in going into a school I have been nearly knocked down by the atmosphere. The inspectors would prevent that now.

Football: style of play.

9813. *By Professor Ogston.*—You mentioned that you had endeavoured in regard to football to obtain a consensus to a series of rules, and that you were strongly supported by your medical officer and the medical officers of other schools in regard to that. What were these rules that you advocated?—I must go into a technical point about that. The tendency of the unions lately has been to develop the game in the interest of the spectators and to get large gates. What they wish is very quick play. That play is too quick for growing boys, and I think that the rules which are the best for attracting crowds, and which, perhaps, may do for grown men, are not likely to be the same as would be best for growing boys. I think our present rules tend to make the game too fast for growing boys. I am strongly supported in that by my medical officer and by others, and I hope we will be able to do something. We are to have a meeting about it to see if something can be done to make the game less quick. It is not roughness that I refer to, as there is no roughness.

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Exercise: not violent every day.

9814. You also referred to continued exercise. 'never 'violent.' Do you object to violent exercise?—No, but it must not be every day. We have only a big side at football twice a week, which I think is enough. Violent exercise is a good thing, but not every day. I will quote the opinion of the late rector of the Edinburgh Academy, Mr Mackenzie, whom I respected very much. He told me that one great advantage that they had over us was that there was not hard exercise every day.

Medical examination.

9815. You referred to your medical officer's examinations. Can you furnish us with a sample of the entries in the doctor's book?—Yes, I sent that in.

9816. No. These are not taken from the doctor's book?—I beg your pardon; I confused it with the physical register. I have no objections to send in samples of the entries, without the names, of course.

9817. You said as the result of your very large experience you would be sanguine that the teaching of the duty of conforming to known physical and physiological laws, and of avoiding physical sins, should form an integral part of all religious education which is given in schools, and be firmly rooted in the minds of the young on a religious basis. You further said that 'the sin of excess in drink would then, in their minds, 'rest on the same foundation as the sin of physical 'indolence or of the compression of the breathing or 'other organs by tight clothing or of indulgence in 'excessive or unwholesome food?'—I think it would do an immense deal towards that. It would not affect everybody, but it would affect a few and they would affect others.

Compulsory system *plus* teaching *rationale* of training.

9818. Do you think that such a system of religious education could supersede in schools a compulsory system of physical training?—No, I think it goes along with it. Training goes hand in hand with the explanation of the *rationale* of training. I never make a rule with regard to physical work without telling the boys the reason or physiology of it, and I deal with food in the same way. You should teach a boy why he should eat vegetables, because if you don't do that some boys would not eat them. You must try and persuade them. If you persuade one in three you are doing a vast deal of good.

9819. You think that that system would be applicable to schools generally, Board Schools and others?—I think there is the same reason in all boys. It would depend very much on the personality and influence of the teacher. One man might be able to do a great deal while another man would do nothing.

9820. *By Mr Fergusson.*—In answer to the Chairman you said that your measurements show that boys are improving in their measurements, and you attributed that to the greater attention paid to physical exercise in preparatory schools?—Yes.

Training in all schools: movement growing. Inspection necessary.

9821. Do you think that that attention is sufficient over all the schools, including Board Schools, or do you think that any steps should be taken to ensure that increased attention be paid to physical training in all schools such as yours and preparatory schools?—I think that steps should be taken wherever they can be taken, but I think that the movement in that direction is growing. I don't think you can lay down any hard and fast rules.

9822. Do you suggest that any public authority, such as the Education Department, should take steps to satisfy themselves that sufficient attention is paid in the preparatory schools?—In any inspection of schools, I think that that should form a part of the inspection.

9823. There is no Government inspection of your school?—There is an inspection by the Education Department.

9824. Do you think that the Education Department should satisfy themselves that physical training is being sufficiently attended to in these schools?—If the feeling of the necessity is not working this way, independent of the Government, I think that it should, but I think that the feeling is growing. There are far more boys who come to us now brought up to sleep with their windows open, and not to think that night air is a bad thing, and all such things, which is a help.

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9825. You think that is going on sufficiently well?—Yes. The great thing is to persuade the people.

9826. You lay great stress on hand fives as an excellent game. That is a game which might be very easily introduced into the board and other schools?—Certainly, it is not expensive.

Proper system.

9827. With regard to a system, I take the words of another witness and ask you if these words convey what you mean, that 'a system should be drawn up 'which would guide the teacher in theory and not 'hamper him in practice.' Is that the sort of system you would like?—Yes, I think it is to a great extent, but I may say that if every teacher and every parent would read such a book as Dr Dukes on schools, they would find everything there that can be said.

Compulsion: treatment idlers and hooligans.

9828. I would just ask one question with regard to the matter of compulsion. You think that if physical training was made a very attractive part of continuation classes a large number of boys would avail themselves of these classes. I suppose you will admit that there will be a considerable class of idlers who won't go to these classes, and they are the very class we wish to get at, the class from whom the hooligans are recruited. How do you propose to deal with them?—That is a question I could scarcely answer, but I do feel this, that in any system of compulsion the greatest care must be taken not to subject people to it that don't need it.

9829. Could you give any help as to what is to be done with that class?—If you can reach them without applying compulsion to those who don't need it I would be very glad to hear it.

9830. Did you read an article in the *Nineteenth Century* by Sir Robert Anderson with regard to the putting down of the hooligan?—No, but I will read it.

Compulsion difficult: wide application with creating burden.

9831. *By Mr Shaw Stewart.*—I would like to ask a question on the same point—about compulsion. In answering Sir Henry Craik on the subject I think you had in view boys who had formerly been properly educated?—Yes.

9832. We have also to consider how to deal with boys after they have left school who have perhaps not been properly educated?—If any system of compulsion could be found to apply to boys who have not been properly educated without being applied to all who did not require it, I would have very much less objection. I don't see how compulsion is to be applied to country boys. It would be a great grievance to apply it to those who don't need it, and I think it would be a great burden.

9833. I suppose the boys who have not had the same advantages as the boys have at Loretto stand quite as much in need of compulsion as the Loretto boys?—Yes, more so.

Compulsion necessary: one society or school: results.

9834. In going over your evidence, it does not appear that you have spared compulsion?—Certainly not, within the limits of the same society. You cannot spare compulsion. I am talking of the world generally just now, and I say that if there was a law made that every youth between fourteen and eighteen, whatever his education and his class of society, must attend continuation classes, it would be a great piece of unnecessary tyranny.

9835. But has not the great success in your school arisen very greatly from such compulsion as this? All the boys have to play cricket—all the boys have to take part in outdoor exercise?—Yes.

9836. Unless medically exempted, the boys cannot help playing football?—Yes, that is true, but that is with the consent of their parents. Their parents send them to be under this system, and they know it. It is not compelling the whole people to go under that system.

9837. But the excellent results in your school have been brought about by judicious compulsion in the first instance?—Yes, within the same small community, but I don't see how it will apply to the whole people without great grievance.

9838. I put it to you if compulsion is not even

more required by the boy in the street than by the rather picked boy who comes under your charge?—Yes; and if you could separate the class of those who do require it from those who don't, then I would be with you.

9839. Those who don't require compulsion will come in without it?—No, they may not want to go on with continuation classes if they had all that at school.

9840. Do you think that half an hour of physical training on three nights a week would do a boy between fourteen and eighteen any harm?—If he was in an office it might interfere with his liberties, and besides, I don't see how it is to be carried out with boys in the country. They are not to be brought into town for it. I say that the practical difficulties are very great.

9841. You see the difficulty that faces us. We have to choose between attraction and compulsion if we want to recommend any physical training for boys after they have left school?—Possibly there might be compulsion for those who could not say that they had received previous physical training.

9842. You would go as far as that?—I might, but I don't see how it could apply to country or village boys. I would rather try attraction first, and only try compulsion if necessary.

9843. I have one other question on another point. Your school has been famous for physical training. I think it would add to the value of your evidence if you would hand in a list of successes in mental regions which your school has attained. Would you have any objection to hand in a list of first-class and gold medals won at your school?—No, but you must remember that we don't get the same ability as other schools get, because we have no open scholarships.

9844. I quite understand that. But anyone reading your evidence would say, 'This is excellent evidence for 'physical training, but what have been the results in 'mental training.' I thought it might add to the value of your evidence if you would hand in a list of mental successes that you refer to in the question as to the relations between mental study and physical training?—I have no objection. The tangible results cannot be very large, and they might give a false idea, because it must be remembered that we do not have picked boys. I have no objection whatever to hand that in. It is not a very big list.

9845. You might also hand in the number of those who pass into the army?—That is more difficult to do. I had an army side of five boys at one time who all passed, but I determined that I would never have another, and I gave my reasons in an article in the *Fortnightly Review*. It is too long a question to go into now. I thought the system at Sandhurst was bad, and I could not conscientiously adopt it, and I consequently turned the boys over to tutors.

9846. Perhaps you will think over my suggestion?—Yes, I will.

Cigarette smoking among boys: dangers and suggested remedies.

I wish to draw attention to the enormous amount of harm done by cigarette smoking among boys. In connection with my observations about 'physical 'sins,' I ought to have mentioned it as a case in which a vast amount of good might be effected by schoolmasters if they were instructed to explain the evils and dangers of smoking before maturity is reached. I believe that far more than is generally supposed might be effected by persuasion if the duty and advantage of keeping themselves in prime physical condition were put in the very forefront of the moral and religious training of children, and enforced by constant object lessons. Personally, I would be in favour of far more drastic measures. I think that teachers and magistrates should be empowered to sentence any one under 16 indulging in smoking in public places, to a sound dose of the birch. Infinitely more future misery would be saved than immediate pain caused by such an infliction. But public feeling, except among the more highly educated classes, has become so morbid on the subject of what is far the least objectionable of all forms of punishment for boys, that I am afraid that my views about it are scarcely practical. Imprisonment, or fines with the alternative of imprisonment, seem to me out of the question. But if something is not done, the prevalence of juvenile smoking is a heavy handicap on the progress of physical education.

The witness withdrew.

Mr George Mackay, M.D., F.R.C.S., examined.

9847. *By Professor Ogston*—We will first of all put on record that you are a Doctor of Medicine, Fellow of the Royal College of Surgeons of Edinburgh, member of the Royal College of Surgeons of England, Ophthalmic Surgeon to the Royal Infirmary, Royal Blind Asylum, Deaf and Dumb Institution, Lecturer on Diseases of the Eye at Surgeons' Hall, Edinburgh?—Yes.

9848. You have prepared a *précis* of your intended evidence?—Yes.

In considering the ocular causes of physical disability in children, it appears essential in the first place to refer very briefly to the anatomical construction of the eye, and to the part played by its component parts in the act of vision.

We see objects by means of the light rays, which, coming from them, enter our eyes. By means of the natural lenses of the eye the light is focussed on the sensitive lining membrane ('retina') of each eye.

An image of an external object is thus obtained within the eye upon a surface which is really the terminal expansion of its optic nerve.

The nervous stimulus travels up each optic nerve to the brain, where the real sensation of sight is experienced.

Defective vision may be due to—

A. Faulty illumination of the object.

B. Loss of transparency in the lenses of the eyes.

C. Some structural error in the lenses or in the dimensions of the eyes making focussing difficult or inaccurate.

D. Want of nerve power to perceive what is focussed.

A. Faulty illumination of the object.—In this connection attention might be drawn to the importance of a sufficiency of light in school-rooms (avoiding excess), to the proper arrangement of scholars' seats, of blackboards and mural diagrams, etc., in relation to windows or sources of artificial illumination.

B. Loss of transparency in the lenses of the eyes is responsible for the majority of cases of actual blindness in children. This is generally the result of inflammation or ulceration of the front of the eye, and may arise from various causes, local or constitutional. It is a very melancholy fact that about 30 per cent. of the inmates of our asylums and schools for the blind have been deprived of their capacity for vision by one cause alone, namely, *want of proper cleansing of the eyes at the time of birth, and consequent infection from foul maternal passages.*

Attention has been drawn to this again and again by ophthalmic surgeons,[1] but the difficulty of safeguarding the State from this chronic disaster seems almost insuperable, and the evil still continues.

In some of the States of America legislative Acts have been passed requiring notification of every case of inflammation of the eyes in newborn children by the nurse or guardian, so that skilled medical aid may be at once invoked; but even this is usually too late to check the disease.

There is a simple means of *prevention*—the application a few minutes after birth of some drops of 2 per cent. solution of nitrate of silver within the eyelids.

[1] For an admirable and recent exposition of this subject, see 'Infantile Ophthalmia,' paper by E. T. Collins, F.R.C.S., in *The Practitioner* for April 1902, pp. 423–443.

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This is almost infallible, but to secure its application nothing short of compulsory notification of *expected* births and the securing of the attendance of a trained midwife at every confinement can guarantee the remedy.

[Attention might also be drawn to other forms of inflammation which interfere with school attendance and render some children permanently defective in vision, or only fit for blind asylum teaching (*e.g.*, strumous and tubercular and syphilitic keratitis, epidemic conjunctivitis and trachoma). In not a few instances the immoralities of parents are visited on their helpless offspring.]

C. Structural errors in the lenses and dimensions of the eyes interfering with the normal focussing mechanism are extremely common.

In children, at least, they are seldom if ever so extreme as to justify by their effects the term 'blindness,' but they may cause various degrees of defective vision, they may induce ocular strain and directly or indirectly may lead to physical and intellectual discomfort.

Some of them may become aggravated by want of early recognition, and they may seriously interfere with success in life.

Emmetropia.

1. '*Emmetropia.*'—An optically normal eye is one which is so happily proportioned that a *distant* object is focussed on the retina with no further effort than that of directing the axis of the eye towards the object.

Optically speaking, the eye is *at rest* in the act of distant vision.

To define a *near* object one of the lenses of the eye must be made more convex by the contraction of a very delicate muscle within the eyeball.

In reading or writing this muscular contraction must not only be maintained with the greatest exactitude, but must be supplemented by the harmonious action of the external muscles which keep the eyes converged simultaneously on the object and carry them to and fro across the printed or written page.

There is thus incessant muscular action in the eyes of a studying child superadded to the intellectual efforts of comprehension. It is thus easy to understand how even healthy eyes may become fatigued by prolonged use, and how they may be relieved by variety of occupation, and especially by the interpolation of intervals devoted to the absorption of knowledge by *hearing* rather than seeing, and by recreative physical exercises of muscles and nerves in other parts of the body. (For further remarks, see under 'Myopia.') Provided then that good health is maintained, a normal pair of eyes should perform their functions satisfactorily until middle life (about the age of forty-five) is attained, when, owing to the gradual loss of elasticity in their texture, the lenses of the eyes find themselves incapable of voluntarily altering their convexity and of bringing near objects into focus. Reading or any other near work becomes increasingly difficult simply because the outlines cannot now be focussed by the unaided eye. This condition of 'old sight' (Presbyopia) is easily remedied by the artificial assistance of suitable glasses.

Employers of labour have great prejudice against wearing of glasses.

I should not occupy time in referring to this matter, which does not directly affect children of school age, if it were not that a vast amount of prejudice exists among employers of labour against the wearing of glasses, and a vast amount of ignorance abounds as to what really constitutes good sight and bad sight.

I have over and over again spent hours in gratuitously testing and prescribing glasses for lithographic and music printers, compositors, paper rulers, painters, furniture polishers, brass finishers, tailors, and many others of both sexes who have worked for many years in shops and workshops, only to be told that they dared not wear spectacles at their employment as they would have their wages reduced or be dismissed.

I am quite prepared to admit that there are many occupations in which glasses might get broken or the face and eyes might be damaged thereby (though out of many thousands of eye injuries I have rarely seen this happen), and I have only to say that no one who needs glasses at the outset of such careers should engage in them. (*N.B.*—It is indeed one of the arguments in favour of a physical census of school children that they might thereby receive due warning of the age at which they are likely to require glasses, and select their vocations accordingly.)

But I think it must be conceded that in most of the occupations which I have instanced no such difficulty need arise, and I consider that the present prejudice against glasses on the part of employers is utterly discreditable to our twentieth century enlightenment, and often a grave injustice.

Employers who object to the use of glasses by their workmen or workwomen, especially after accepting their services without them, are blind to their own interests, and ignorance recoils on their own heads; for those workers who have defective or failing sight often conceal their misfortune and work either less well or less fast, and the employer suffers unconsciously with them in purse or reputation.

Hyper-metropia.

2. '*Hypermetropia.*'—A large proportion of infants are born with eyes which may perhaps be most simply described as having *less than normal focal strength*.

In such a 'hypermetropic' eye light from a distant object impinges on the retina before it has come to its proper focus. Since this would give a blurred and ill-defined image, the eye tends instinctively to exert its focussing muscle ('muscle of accommodation') *even for distant objects*, and must of course exert a still greater effort than a normal eye in defining near things.

In a considerable number of children Nature seems to correct this defect by subsequent growth, so that the eyes attain to the *normal* standard (Emmetropia), as defined above. But it persists sufficiently often to constitute the commonest optical fault met with in children, and in a large proportion of persons it is a permanent condition throughout life.

If the error be of high degree, or the child be of sensitive temperament or in poor health, with feeble muscular tone, symptoms of difficulty in vision or ocular distress may arise and attract attention before or during school life.

But owing to the elasticity of the texture of the human lenses in childhood and youth, many hypermetropic young persons grow up quite unconscious of the extra amount of focussing effort which they have always had to exert. They have a superabundance of focussing power, and they use it freely and instinctively. They believe themselves that they have normal eyes, and they may unintentionally mislead superficial inquirers by responding correctly to such tests as the counting of dots, or naming of letters in the 'Test 'Types,' which are commonly used in so-called 'vision 'testing.' This method of testing is of great value as a means of recording the acuteness of vision *at the moment of examination*, but unless supplemented by further optical measurements, it affords no reliable information as to the actual optical condition of the eye, or its probable future usefulness.

Myopia.

3. *Myopia.*—Comparatively few children are born with eyes which *exceed* the normal standard of focal strength, but during the years of school time and active growth a considerable number of eyes stretch and yield in such a way as to put the retina out of focus for distant objects while enabling the eye to focus nearer objects with less effort

This lengthening of the axis of the eyeball has often been regarded as an illustration of natural evolution adapting the eye to the needs of modern civilisation, which requires the use of the eyes more for things near at hand than for things at a distance. Its intimate relation to school life has been brought out by the study of its comparative frequency in the senior as compared with the junior classes in schools and colleges all over the civilised world.

But myopia (near-sightedness) has many disadvantages both in school and after life. It is often progressive, and if unchecked may lead not merely to physical disability for many occupations, but may develop into actual disease in the membranes of the eye, and incurable impairment of vision.

It can undoubtedly be checked in many cases by the

use of appropriate glasses, by a judicious cessation or regulation of the time devoted to near work, by a rigorous correction of faulty attitudes at work, and the encouragement of physical exercise and recreations which do not require fixation of the eyes on near objects.

Unlike hypermetropia, it cannot be disguised by any voluntary muscular effort of focussing; it can be compensated for only by getting near enough to the object, or by the use of concave glasses.

4. *Astigmatism.*—In a normal eye the front window of the eye (cornea) has practically an equally curved surface in every meridian, but not infrequently the curvature of one meridian (say, the vertical) is more acute than normal, or that of another (say, the horizontal meridian) may be less acute than normal. The effect of such inequalities of curvature is to give rise to unequal focussing on the retina, and is a frequent cause of difficulty in vision, ocular strain, or headache.

It is usually congenital, or, if acquired, is often developed in early life.

It cannot be satisfactorily corrected by any voluntary effort, but can generally be compensated for by very accurately devised spectacles or eye-glasses.

That form of it which is associated with *myopia* may to some extent be checked by the means suggested in that section.

D. Nerve power and vision.—This constitutes the most important factor in the whole visual act, since however transparent the lenses of the eye, and however excellent the focal power, the actual perception of the object depends ultimately on the degree of integrity and vitality of the optic nerves and parts of the brain to which they pass. That much can be done for training the eye to observe accurately and quickly, and for co-ordinating hand and eye by physical training, is well recognised. It does not seem practicable to confer upon our town-bred children any system of physical training which will give them the keen sight of the hunter, or tracker, or stalker, but in country places perhaps more might be done on the lines suggested by General Baden Powell's little book on *Scouting*.

For recreative purposes I would insist that games or exercises which encourage the focussing of the eye on objects, at least 20 feet distant, should be encouraged, since this tends to secure relaxation of focal effort.

In connection with the selection of occupations, the presence or absence of colour sense should be determined during school life. If the sense for colour is congenitally absent, no amount of training can create it.

In a public lecture, which I delivered at the request of the Edinburgh Health Society in 1891, on 'Colour 'Blindness and Defective Sight in Relation to Public 'Duty,' I raised the question whether every child at school should not only undergo the mental examinations at present enforced for the purpose of ascertaining its intellectual progress, but also periodic inspections as to its physical health and development, in which the eyes and sight should receive careful attention. I further suggested that since the great mass of School Board pupils seek occupations in which strength of limb and sharpness of sight are of as great practical value as book knowledge, it would be an excellent plan if each boy and girl received on leaving school a certificate showing the state of their sensory faculties and general physical development. It appeared to me that among the advantages to be gained from such a system would be:—

(1) That more attention would be paid to physical education and the laws of health in schools, and that a great impetus would be given to the diffusion of that kind of knowledge among the people.

(2) That there would be less excuse for any laxity on the part of the authorities in our public departments or private establishments unwittingly admitting to employment those who are from the outset likely to be physical failures.

(3) That there would be a truer distinction between those defects which are real and those which are only apparent.

(4) That our citizens, knowing better their own constitutions, their weaknesses, and the disadvantages which they entail, might be moved to more prudence in marrying and giving in marriage, so that the gradual advance may be promoted towards those ideals of health and physical perfection which are admittedly desirable for the welfare of the race, and which are certainly unattainable by haphazard methods or slothful indifference to ascertainable facts.

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Another decade of experience in ophthalmic work has not only served to confirm the opinions which I then expressed, but has involved another argument in support of them. The passing of the Workmen's Compensation Act has resulted in daily claims being now made for damages received in various employments. Referring only to those which are due to injuries of eyes and sight, my experience is that in determining how much of any given ocular defect is due to conditions existing prior to the date of injury, and how much to the accident for which compensation is claimed, is often a very difficult problem.

I suggest that a permanent record of the powers of vision in each case at the time of leaving school would be of the highest value to employers and employed in many such cases in arriving at an equitable settlement.

But I must most strongly urge that if a physical census of school children is thought to be worth having it must be done thoroughly and by the best scientific methods.

Of the folly and false economy of entrusting such examinations to unqualified persons, I could give many illustrations from the experience of the Board of Trade in its futile endeavours to control the eyesight of officers in the mercantile marine, and from the records which I possess of the experiences of officers and men in our navy and army, and in our railway companies.

There are exact scientific methods by which ophthalmic surgeons can determine the presence or absence of optical errors and measure their precise amount in children of any age. If a thing is worth doing it is worth doing well.

9849. I might emphasise in your evidence one or two points that we might have more especially before us now. The first point of practical importance is where you say that it is one of the arguments in favour of a physical census of school children that they might thereby receive due warning as to the age at which they are likely to require glasses, and select their vocation accordingly. The second important point is when you say that it does not seem practicable to force upon our town-bred children any system of physical training which will give them the keen sight of the hunter, or the tracker, or stalker, but in country places, perhaps, more might be done on the lines suggested by General Baden-Powell's little book on Scouting. The third important point is when you say that a system of periodic inspections as to physical health and development, in which the eyes and sight received careful attention, would have great advantages. You say that these advantages would be '(1) That more attention would 'be paid to physical education and the laws of health 'in schools, and that a great impetus would be given to 'the diffusion of that kind of knowledge among the 'people.

Physical census of school children.

Medical inspection.

'(2) That there would be less excuse for any laxity 'on the part of the authorities in our public depart-'ments or private establishments unwittingly admitting 'to employment those who are from the outset likely to 'be physical failures.

'(3) That there would be a truer distinction between 'those defects which are real and those which are only 'apparent.

'(4) That our citizens, knowing better their own 'constitutions, their weaknesses, and the disadvantages 'which they entail, might be moved to more prudence 'in marrying and giving in marriage, so that the gradual 'advance may be promoted towards those ideals of 'health and physical perfection which are admittedly 'desirable for the welfare of the race, and which are 'certainly unattainable by haphazard methods, or sloth-

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'ful indifference to ascertainable facts.' Those words, I suppose, contain the full expression of your opinion? Do you wish to elaborate any of those points?—Not just now.

9850. Are there any other points you wish to draw attention to?—I should like to draw attention to the point about the Workmen's Compensation Act, which is, indeed, very important. Cases are constantly cropping up now in which workmen, after injury, make claims on account of some supposed defect of vision, and it is a matter of the utmost difficulty to determine what the real state of their vision was before the injury took place. If any such system as I suggest were introduced, which would enable one to have a record to appeal to as to what the state of their vision was when they left school, a great deal of assistance might be given in equitably adjusting these claims.

9851. Is it not possible for an oculist examining an injured workman to ascertain from his present condition what has been the state of refraction in his eyes in childhood?—Yes, but it is not always possible to certify the precise state of vision, whatever the state of refraction may be. The two stand quite apart, and that is the point I am specially anxious to prove.

9852. So it would only be in the case of injuries to the brain or head that you would be unable to say whether this was the result of the accident, or whether it existed before?—Not necessarily. It is, of course, quite possible that a workman may pretend that he does not see as he did before, or he may never have observed the defect in his vision until some accident deprives him of the sight he depended on, and then he puts in a claim for full loss of vision, whereas he never had full vision before.

9853. The bearing of this remark is as regards the Workmen's Compensation Act, and the use that a physical census of children might be in regard to it?—Yes.

9854. Are there any other subjects in regard to our remit?—Yes. In my *précis* I merely endeavoured, as I was approaching a highly technical subject, to prepare the Commission, and tried to explain the nature of visual defects, because it was obvious from the questions sent to me with the remit that it was scarcely justifiable to talk of as 'blindness' an error which was due to refraction, and might be corrected by glasses, and it was also because of that I laid some stress on the loss of transparency. There is one important question, and that is as regards the proportion of cases of abnormal vision in school children. A good deal has been done in that line of investigation both here and on the Continent, and there is no question that a very large proportion of school children have defects which are never appreciated at all, and which may never be attended to. Perhaps you are aware that Dr Arnold Lawson was asked to make an examination for the Education Department in London, and he examined 2014, and out of these he only found 698 who could be said to have normal vision, all the others having some defect or other. I think that his method of procedure was open to criticism, as it was not sufficiently searching as a life test, although it was sufficient for the moment. I have seen in constant daily practice among children of all classes an enormous number who have defective vision, but I would not venture to make any statement as regards the proportions in State-aided schools, nor would I advise anyone to do so on the reports that have been made, because no two examiners have followed the same method or tabulated the cases in the same way. One great advantage that might be done, if it appeared good to the Government to introduce some system of examining the children physically, would be gained if they could lay down a definite system, which, under proper supervision, was carried out for a series of years. I think that might lead the way towards the basis of a uniform method, which might be more broadly applied. There are many assertions published which are open to question, because the methods and standards are not the same. In some American cities examination is carried out under an ophthalmic surgeon, and I believe that an excellent report of the method employed, for instance, in the city of Minneapolis is given by Dr Allport, the doctor appointed in that city, in the *Educational Review* for 1897. Then there is another point which I might emphasize if I have not made it sufficiently clear, and that is that under present conditions of civilisation we must expect that a certain number of our boys and girls will necessarily tend to develop near-sightedness, and we should, therefore, take some means to try to prevent that. Now, we cannot prevent it if we do not do something before they complain. We should be on the watch for it and run those children in, just as we set a policeman to prevent robbery. It is to be guarded against by a careful regulation of work and encouragement to physical exercise as against bookwork. It is a very curious thing, and is often asserted, that the development of near-sightedness is intimately related with the progress of education. It is comparatively rare among savage people, and extremely common among much educated people, such as the Germans, and especially such people whose printing is not very legible, also the Germans. That has been said to be responsible for a great deal of the near-sightedness in Germany. Another factor has to be considered, and that is that once young persons develop near-sightedness, they are apt to lose interest in distant things; seeing them indistinctly, they find more pleasure in occupations that engage their sight near at hand. They employ themselves with near things, and by employing their eyes for near things they make their eyes more near-sighted. It is very desirable that opportunities for physical recreation should be rather enforced upon the children with that tendency, otherwise their recreation probably will be, when they go home, to read some book, some novel, or do needlework—anything but run about and exercise their eyes in distant vision. A very important problem arises upon the question of the selection of occupation. Perhaps this is too Utopian a suggestion to make; but if every child could be informed of its physical condition before leaving school, the ruining of many careers might be avoided. I could give many instances of persons I have seen who have embarked upon careers utterly unsuited for them by want of guidance in that matter. The point I want to emphasize is, that if that guidance is to be sound, it must be given on proper scientific methods. It is false economy for a State, if desiring scientific ends, to use unscientific means. They must employ properly qualified persons to conduct these examinations; if they do not, they may find that they are not getting the good results that they might get. There are means by which accurate results can be obtained even in early childhood, giving the focus of the eye. These means must be employed by someone who is in the habit of devoting himself to the subject. The State, through employing inaccurate methods, are squandering money. I could put my finger on cases where the Treasury is wasting money right and left by not having a sound scientific and proper examination.

Defective vision: proportion of cases of abnormal vision.

Physical census: definite system for series of years.

Near-sightedness: remedies: careful regulation of work and sufficient physical exercise.

Physical certificate advantageous.

9855. I think that what you have said is sufficient as bearing on that point without giving illustrative cases. Is there any other point you wish to bring before the Commission?—No, I don't think there is anything more, unless I went into details.

9856. I may focus it by saying that you are distinctly of opinion that a good deal of the defective vision could be avoided by suitable physical training?—Yes, in cases of near-sightedness. Of course, hypermetropia, undersized eyes, is a congenital condition.

9857. You are of opinion that an examination by school teachers is utterly out of the question; it must be conducted by a medical expert?—Yes; to be of life value it should be. Of course for temporary value a layman can do it.

Examination should be by medical expert.

9858. Is it practicable to apply this to the whole of Scotland, to schools even in remote districts?—It would be possible. Of course, the further you go with it the more expense it entails, but it would be quite possible by appointing competent persons.

9859. You have no special suggestion to make in regard to the hands into which such an inspection should be entrusted or the mechanism by which it

might be carried out?—I have no preconceived scheme to suggest. I have already indicated the kind of policy I should be disposed to pursue in the matter, and that would be to deal with a small part in an easily accessible town, such as Glasgow, Edinburgh, or Aberdeen, and to watch it carefully, and not to have a great scheme for the whole country at once. Take a comparatively small part where advice is easily accessible, and judge by the results whether it would be worth while extending it on a large scale.

9860. *By Sir Henry Craik.*—Dealing with myopia, you say: 'Its intimate relation to school life has been 'brought out by the study of its comparative frequency 'in the senior as compared with the junior classes in 'schools and colleges all over the civilised world.' On what basis do you found that generalisation?—The fact that numerous papers have been published, very notably in Germany, where the subject has been of national importance, as there are so many cases of myopia there.

9861. Do you think that it is a consequence of the conditions of school life?—I am sure that it is largely influenced by that, but I don't think it is by that alone, as there are hereditary and personal factors to be considered.

9862. Do you think that the state of the school-rooms generally in Scotland are such as to account for this increase, keeping in view the time the children are there?—I am not sufficiently acquainted with the school-rooms to be able to make any statement on that matter. My experience with regard to the examination of children and students is outside their class-rooms, and I have little opportunity of seeing where they study, but we find this condition of myopia to be comparatively infrequent in young children, and it progresses with greater frequency during the later years of school life and during student life.

9863. You think it is occupation that produces it; it is not the conditions of light and so on?—Both have to do with it.

9864. The conditions of light in most of our schools are better than in most of the houses where they live?—That is possible, and therefore I don't express any opinion.

9865. You simply say that as a fact it does develop during the course of their school life?—Yes, and it may go on after they leave school. A great deal depends on occupation. The lighting is, of course, a very important factor. You may have a brilliantly-lighted school in which the children are badly placed.

9866. In approving plans, the Department looks very carefully to the direction from which the light comes?—I believe so.

9867. *By Mr Alston.*—That is what I want to ask you, whether an expert oculist could not lay down rules as to the lighting of schools and the position of the children?—Yes. I have given advice in one case where I saw the children trying to decipher the blackboard between two windows, and writing at badly placed ill-fitting benches.

9868. Have you had many cases of that kind?—That is just one instance in which I was able to draw attention to the point.

9869. Would you advocate that in the construction of schools expert opinion should be taken as to the position of the children in class-rooms with regard to the light?—Yes, but I think it has been done to a very large extent. I think architects and the Education Department are very much alive to that now.

9870. You spoke of the Workmen's Compensation Act. You did not refer to the claims of children?—I was speaking of lads as well as adult workmen.

9871. That, of course, could only follow on a very large number of cases being scheduled?—Yes. If it was desirable to have a physical census of the population to be able to say what the national physical assets are, then I think that it would be useful to have an accurate record of vision. There are cases now of comparatively young men who, after some kind of injury, come and say that they have received such serious damage that they want one to certify that they have suffered great loss, and it is often extremely difficult to make up one's mind what the value of the eye has been before the accident.

9872. The man might not have an intention to deceive?—Very often there is no such intention.

9873. It is from absolute ignorance?—Yes. If we had some record that might be looked up it might facilitate an equitable adjustment.

Physical exercise with proper medical supervision.

9874. *By Mr M'Crae.*—Have you considered whether the amount of mental work exacted in our public schools is detrimental to the eyesight through too great a strain?—I have considered it only so far that undoubtedly, to return to myopia, the tendency to myopia is progressive in many cases. One cannot say that it is a matter of the arrangement of the seat or the light; it is very often hereditary. Only a week or two ago I had an illustration in my own consulting room of a lad who was tending to develop near-sightedness. He had himself begun to notice that he could not see things on the blackboard, and he was taken to see an oculist. The advice given to him was that while he might continue to study he should do no evening work at all, and that he should stop at 3 or 4 o'clock in the afternoon. The advice had been decidedly beneficial. In that way I think if one had in schools someone supervising the children with a tendency to myopia, there would be many a case in which, by an earlier recognition of the tendency and a control of the hours of work, good might be done.

9875. In any case, if there was an increase in the physical training given in the schools, then there would be a relief from the mental strain, which would be an advantage from your standpoint?—I had more the strain on the eyes in my mind, but, of course, I agree with you. In the actual amount of physical exercise undertaken some precaution should be secured for children who have a tendency to be near-sighted, not to engage them too much in exercise that would involve hanging their heads, as from a horizontal bar. That would be undesirable for them.

Physical census: certificates granted to children on leaving might be renewed or revised in continuation classes, etc.

9876. *By the Chairman.*—There is just one question, and that is as to your suggestion about a certificate being given to children when they leave school, at, I presume, the age of fourteen. How, so far as their optical powers are concerned, would that affect their future life? Is it not rather early at that age to give a certificate that might affect them throughout the rest of their life?—It is a difficulty, and I appreciate it more especially in connection with those who tend to develop near-sightedness, but such certificates are frequently sought and given at that age, *e.g.* to naval cadets.

9877. Is the difficulty so great as to make it impracticable?—No, a majority of children commence life with eyes (hypermetropic) below the normal focal standard.

If they are going to develop normal eyes they will usually have done so by the age of fourteen.

If they have not done so they will probably need convex glasses for exact work long before middle life, and may be warned when leaving school to avoid occupation in which glasses cannot be easily employed.

Again, by the age of fourteen a large proportion of those who have a tendency to develop 'Myopia' will have begun to do so, and may receive warning and guidance towards the prevention of further development.

And further, apart from these refractive or optical errors there is a large group of cases in which the vision of one eye is not so keen as the other, from some congenital or irremediable condition at the back of the eye, or both eyes may be defective in nerve power though appearing healthy externally. All such congenital cases, and many which result from infantile disease, can be detected by the time of leaving school. Besides, if a physical census were established in State aided schools the physical examination could be extended to technical schools and continuation classes, and certificates could be revised and renewed. The earlier record, if properly made, would be of great value.

The witness withdrew.

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9878. *By the Chairman.*—You are Sheriff-Substitute of Forfarshire, and have been so for how long?—Five years.

9879. Your evidence is most interesting. Perhaps you might read it through?

After school age: town and country lads.

On the general question, I believe that a certain amount of physical training after school age is desirable as an aid to both physical and moral development. If the cities and large towns alone had to be considered, I should see no objection to making some such training for boys compulsory, but I should make it optional to any lad to enter a preparatory volunteer force (*i.e.*, to go through a course of regular military training), as an alternative to the regular compulsory course. But, without professing any special knowledge of the requirements of town boys, I believe that there is more need for something to be done in the country districts, where any general and compulsory system is hardly practicable. In the towns every boy has the choice of various outlets for his surplus activity; he is surrounded by different influences and examples, good and bad, and it is probable that his character, as developed by his earlier education and upbringing, will determine for him his pursuits and companions and habits. The country life, on the other hand—and especially the life of the farm bothy—offers few, if any, opportunities for healthy activity, and leaves the young lad wholly dependent on the influence of the two or three older men who are his necessary companions. These companions have already, not so much through any fault of their own as by long custom, probably become loafers. The young lad soon finds that the only recognised signs of manliness are to vary the monotony of idleness with occasional visits to the public house, competition against the virtue of the young women of the district, and perhaps a little poaching. These and such like adventures become the chief topics of conversation at meal times and in the evening, and the lad, until he can hold his own with an obscene jest or a discreditable experience, is made to feel his inferiority in the opinion of the others, and is subjected to an amount of banter and abuse which only the strongest can withstand. The inevitable result is that the average ploughman grows up, or rather under the present conditions is trained up, into habits of idleness and dissipation, which more or less colour and affect his whole future life and work. My jurisdiction as a county judge extends over a very large agricultural area—at least 500 or 600 square miles, I should say—carrying a population of over 100,000, of whom about one half must live out of the towns. Amongst this large rural population there is almost no serious crime. Dishonesty is very rare. But the farm servant (in five cases out of six the young unmarried farm servant) is a very frequent visitor in the court. He often appears as principal or witness in cases of breach of the peace, malicious mischief, or assault,—cases which may be generalised as drunken brawls. I do not probably see most of the cases of this kind which occur, as much of the drinking is in the burghs, and the resulting brawls are dealt with in the burgh courts. He also appears often in affiliation cases, in actions of damages for desertion of service, and less frequently as a defender to actions for the recovery of tailors' or other tradesmen's accounts. His appearance in court is seldom a credit to the educational system under which he has been produced. He is generally stupid and irrelevant, partly I think from ignorant suspicion. His manner and behaviour show no trace of respect or civility. He lolls upon the witness-box, spits upon the floor, and if he answers questions at all, does so unwillingly and rudely. He appears to me to have, as a rule, little sense of the duties of citizenship, and though on oath will often not speak the truth until it is forced from him, and then only because he cannot, or is afraid to, longer withhold it. The same want of discipline, and of the better-brought-up lad's sense of honour and respect, are very noticeable in the relations of the farm servant with his master. In some cases service is deserted to obtain a better place or better wages elsewhere. Oftener it is done in temper or sullen anger at a rebuke, or an order to do something unusual or irksome. In either case there is an apparent resentment of authority and assertion of independence which, if permitted, would make the position of master and servant impossible.

Farm servants: sketch of their life and environment.

Want of discipline.

These features, which I have noticed as fairly general, do not make up a very pleasing personality. But I have always strongly felt—and every year's experience adds to my belief—that if the product is unsatisfactory, the fault lies in the method of production and not in the material. These farm-servants are, as I have said, almost wholly free from serious crime. They are physically strong, though clumsy, and do not desire to shirk exertion. Among themselves they appear to be good-natured and social. I have often seen them, when they have survived their days of service and become farmers or managers, or when they have left the farm to join the police force or private service, or to become railway servants, develop under the influence of new surroundings into as fine men as any country could desire to show. But in such cases the development is always slow; and I have seen men who, after years of successful and valued work in responsible positions, have never been able to wholly shake off the early idea that any kind of discipline is incousistent with manliness, and to recognise that a deferential manner can be consistent with self-respect.

Remedial military training healthy recreation.

I think that some form of physical training on more or less military lines might—not all at once, but gradually—improve this state of matters. It ought to induce a more general amenability to discipline, and to produce a better bearing and better manners. To some extent it might also counteract the natural desire to loaf. But loafing is, in my view, not due so much to natural laziness as to environment, and until you can combine with such physical training as is possible in sparsely populated districts some healthy and innocent outlet for physical activity, the training will do little to remove the temptations which are inseparable from the present conditions of life. I am not aware that for the ordinary unmarried farm-servant there exists any inducement to innocent and healthy recreation. Apart from his work he has the bothy and nothing else. He may spend his time with his companions inside over the fire, or outside leaning against the wall, but for anything else he must go afield, and it is unlikely that he will find anything different until he gets to the nearest public-house. Combination for games may exist in exceptional cases, but for the most part there is no suitable accommodation, and the farm-servant is too migratory to combine to acquire accommodation. Besides, he has not been educated to regard physical exercise except as an exhibition by others for him to watch. I believe this could easily be changed. I have seen cases where some enterprising person has found no difficulty in getting up and maintaining a cricket club. There are other ways in which recreation can be found. Most of the railway companies now give annual prizes for the best-kept stations. The result has been that the majority of stationmasters have become enthusiastic gardeners, and among the smaller stations, when the porters are constantly being moved (promoted most of them), I have seen time and again that the porter, who has no interest in the result, quickly catches the enthusiasm and willingly gives his spare time to unpaid labour in his superior's garden. I always hope that such a man has found a lifelong antidote to idleness and its temptations. It would be interesting to learn from some of the companies if they can estimate the effect of gardening on the temperance and conduct of their servants.

I would summarise my views in this way, premising that I do not include the less complex question of town life:—

Suggestio for countr lads.

1. I believe that some system of physical training would contribute to the sources of national strength.

2. That such a system, if combined with facilities for the physical exercise and recreation of the youth of the country, would greatly diminish the sources of national weakness, and that it would so diminish them in proportion to its attractiveness.
3. That to foster the inclination to physical recreation by providing facilities would be the easiest way to popularise physical training.
4. That a general system of physical training in the country districts, unless combined with the inducement to general and voluntary physical exercise, would not probably yield a result at all proportionate to its cost.

I am unable to suggest any practical scheme which would give effect to these views. I think that a good deal might be done in small ways, but that for the full solution of the problem—which one day may have to be faced—something more than a mere Education Act would be required. I should endeavour—by persuasion if possible, by legislation if necessary—to acquire gardens for all labourers' cottages and bothies. The local horticultural societies will offer inducements for their culture. I should try to get persons of position in the country districts to take the lead in the formation of clubs or combinations for outdoor sports, and in this way to accustom the popular mind to the belief that physical exercise may be the best form of rest from outdoor labour, and, therefore, that physical training may be a not unimportant department of education. But, after all, to ask a working lad in the country to attend regularly for any considerable period at classes at a distance would not probably be successful unless some tangible inducement could be offered. The inducement ought to be practical and personal, but at the same time commendable to the ratepayer as yielding direct as well as indirect returns on his expenditure. If it were found possible that service for ten, fifteen or twenty years in a Volunteer force should entitle the Volunteer at some stated age to the enjoyment of an old age pension, and if such service were allowed to begin from the age of fourteen years on condition that between the ages of fourteen and eighteen, only those years should count in which the Volunteer had satisfactorily attended such physical or other classes as might be required, I believe that with such an inducement the introduction of a national system of physical training would in Scotland be assured of popular acceptance.

9880. There is in your evidence a good deal of matter that is new to us, and what we have been anxious to get at. What is your special object in treating so largely on the habits of the farm labourers?—As a class they have very generally come before me, and I don't know that any other class in particular does come before me.

9881. It must have struck you as a difficulty as regards further employment of men of the ploughman class that their spare time after their work is done during a large portion of the year is somewhat limited?—Yes.

9882. The hours of rising are so early that they are almost bound to go early to bed?—But I don't think that they do go early to bed. I thought you meant the other part of the year when they rise practically with the sun and stop work with the darkness, so that their hours of daylight for recreation are very limited.

9883. You don't think in wintertime they are so limited in their hours of recreation?—They are not limited at all in winter except by the light. The farm servant in winter rises later than he would do if he began work at the ordinary hours, because it is too dark for him to work, and for the same reason he stops earlier, the same want of light that deprives him of the power of working will also deprive him of the power of recreation outdoors.

9884. You say that as a general rule they don't get much rest. Do you know at what time they go to bed?—I don't think the ploughman goes to bed nearly as early as he used to do. Certainly in the county of Forfar I would say that there is no ploughman who has not got a bicycle. Now that takes them far afield. Certainly the life of the ploughman is generally accepted to be not so healthy as it used to be, partly because he does not look after his sleep so well, and partly because his food is so very much altered for the worse. *Mr B. P. Lee.* 15 Sept. '02.

9885. What is your reason for saying that in country districts in general your compulsory system is hardly applicable?—I mentioned 500 or 600 square miles, which is a very large district. If you subdivide that into three or four you would still leave very large distances for many of the people from the place where you proposed to give instruction. They might go to a place one night a week, but you could hardly introduce classes at so many different places so as to make it practicable to have regular courses daily, or even three or four times a week. Compulsion: difficulties.

9886. So far as your experience goes, at what age, as a rule, does a boy become a ploughman?—I should think at fourteen or fifteen.

9887. Just after he has left school?—Yes.

9888. He goes with all the impressions of school life, good or bad, that he has formed?—Yes.

9889. He starts as a ploughman with the defects you have narrated?—Yes.

9890. Are these defects due to his school education?—I think not. I think he starts life probably as well taught in the school as he need be, but at fourteen he has no stamina to enable him to resist temptations when put into the bothy.

9891. He deteriorates from the bothy system?—He is forced down. I constantly see young men to whom drink must be pain coming into court. They have always got drunk in the company of older men.

9892. Then you say that physical training, more or less on military lines, might gradually improve this state of matters, but you are unable to suggest any practical scheme to give effect generally to these views?—Yes. What I think will be the great difficulty is that what seems to me to be wanted is something that will generally occupy the man. I think that physical training would do an enormous amount of good in the way of disciplining him and helping him to hold himself up, which I think is very important, and to remove the special temptations which bring him very much into the Criminal Court, and involve such a tremendous waste of his and public money. Remedy: training and occupation.

9893. By physical training, you mean physical training after he has left school?—Yes.

9894. You are aware that he has had a certain amount of physical training for some years past while at school?—I suppose he has had that. I confess one does not see much result from it, but I suppose it is too early to look for a result.

9895. You would naturally expect from what is called adequate physical training that the result would be at all events an amelioration in his manners?—Yes, I should think so.

9896. But you don't find it?—I don't know that I see many people who have had physical training. The persons educated in towns certainly do have a certain amount, and I think there is a good result there, but I doubt whether persons educated in a small school away up near Braemar, say, get any physical training.

9897. I assume that they do have what is considered by the inspector to be adequate physical training, and I only ask your view as to the result within the last few years. You say that there has not been any?—I confess that I don't see any.

9898. Do you think, if some parochial or district arrangement of parts for physical training after school were arranged it would be a benefit?—Yes. I spoke to the Chief Constable of Forfarshire the day before yesterday. I asked him to read over a copy of my evidence, and give any suggestions he had to make. He said that the point I made about gardening struck him as being the most useful of the lot. He said he knew three parts of the county in which gardening had been introduced. One was at Haliburton, where Mr Menzies would not allow his gardeners to throw anything away, everything being given to those who would Gardening.

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take it. The result is that everybody is neat and tidy, and takes an interest in gardening, and no one goes to the public house. In the same way someone else has done the same in the district near Montrose; I think it is the gardener of Charleton. He has got up a Horticultural Society, which he has got every cottage in the village to join, and the same result is there. The Chief Constable is not troubled with drunkenness or mischief; everyone has got his occupation.

9899. That would be a summer occupation?—No, it is wonderful what they do. The Chief Constable told me that one of these ploughmen had taken a first prize for Chrysanthemums three years running, and that must have meant daily work in nursing them.

9900. *By Mr Shaw Stewart.*—I am afraid your evidence is rather negative on the whole?—It may be negative, but I should be enthusiastically in favour of anything being done. I think it is very necessary, but I think it is far more necessary to get something to occupy the people. I think if you once get that you would introduce physical training much more easily.

Evening classes: compulsion necessary unless people educated to understand the pleasure involved by physical exercise.

9901. You mean intelligent occupation. Have you ever considered the idea of evening classes in villages, combining physical training with mental training, at which village lads, not necessarily ploughmen, but all sorts of lads, might be attracted or compelled to attend? Have you ever considered that?—Yes. We have not got many villages.

9902. In Scotland?—In Forfarshire. Certainly there are many places which would be much more easy to get at with bicycles, but you would not get those fellows I talk of to go to these classes unless you compelled them. In Scotland there is no inclination to physical exercise, at least over a great part of it there is not, and I think it is very easily fostered. I think if you once got people to understand that there was pleasure and profit in physical exercise, you could then quite easily persuade them to go to classes for physical training. These farm servants are very keen on anything that they do take up.

9903. The difficulty is to find the best way of taking the first step?—Yes.

9904. *By Mr Fergusson.*—You are dealing rather with one class, the ploughmen in Forfarshire?—Yes, entirely.

9905. Of course I agree with you that they are a very difficult class. You spoke of cricket clubs as being easily got up for them, but are they of use for ploughmen, who are not free till about seven o'clock in the summer nights, and are not free till after dark in winter time. I am one of those 'enterprising persons' who have tried such things as reading rooms. The ploughmen will never enter them. I will try your plan of gardening and see how it works?—The difficulty is that you may start these places all over the country, but as yet you have not the necessary interest to draw the people. If you are prepared to make it compulsory for them to go, then you would have the outcry that these poor fellows after their ten hours' work were not fit. There is a difficulty either way.

Volunteering: old age pensions.

9906. *By Professor Ogston.*—This valuable suggestion regarding possible service for ten, fifteen, or twenty years in a volunteer force entitling the man at some stated age to enjoy an old age pension would require some alteration in the volunteer regulations?—Yes, I did not offer that as a practical suggestion.

9907. You do not consider it impracticable?—I don't think that is within my sphere at all. I merely tried to state the kind of inducement that I thought would draw Scotchmen.

9908. You lay considerable weight upon some inducement of this nature as likely to be of great value in reaching that class you have so graphically described?—Yes, I am sure it would reach them.

Lads after fourteen: temptations.

9909. *By Mr M'Crae.*—The great difficulty seems to be just after the boy has left school, so far as the ploughman class is concerned, and the class he is brought in contact with for the first time?—The ploughmen, from his very start, is a person who changes once a year, and even twice a year. They don't stay long in their places. They are almost equally submitted to temptation during the four or five years. *Mr B. P.* 15 Sept.

9910. Do you think, if a boy had a proper course of physical training at school, and he began to feel the benefit of it, that would help to keep him straight afterwards?—I think it would, if he had facilities for physical recreation afterwards.

9911. How many ploughmen do you think are volunteers?—Very few indeed, but in the neighbouring county of Aberdeen I think there are a great many more. I have often heard it suggested in Forfarshire that if there was a volunteer cycling corps got up, that would draw them, especially if they could see any way of getting a grant for their bicycles.

Voluntee compulsi undesira

9912. Supposing there was a compulsory system of volunteering, which is rather paradoxical, but if it were compulsory that those lads, between fifteen and nineteen, should put in so many attendances at drill, do you think that would help you over the difficulty? Would it give them such an interest in drill, combined with shooting, perhaps, as to keep them away from the public houses?—The moment you bring in compulsion, you have everybody against you, and you are apt, I think, to destroy any enthusiasm that the person you compel might otherwise have.

Gymnasi parishes.

9913. Do you think it would be possible to have gymnasia on a parish basis?—I think that every reading-room should be a reading and recreation room. I think it is a waste to have these reading-rooms all over the country as reading-rooms only. They would be more useful if there were means of doing something else in them.

Cadet co in parish

9914. Would there be any possibility of having a cadet corps on a parish basis for the younger boys?—I should think so.

9915. I mean having regard to distances?—Things have changed a great deal. The bicycle is now so universal that I think there ought not to be any difficulty. If they wanted to go, there would not be the slightest difficulty in going.

9916. At what age?—From the time they left school and started work.

9917. *By Mr Alston.*—You have said that the age at which these farm hands begin their work is from fourteen to fifteen?—Yes, I think so.

9918. They are, in fact, boys from school?—Yes.

9919. What induces them to take to this particular line of life?—I think they are better paid.

9920. Even at that age?—Yes, they are very well paid.

9921. Have you any idea of the number of such hands in Forfarshire, roughly speaking?—No. I think that the Forfarshire County constituency is 12,000 voters, and I should think there must be a good deal more than that. They are mostly farm people.

Young f servants much scattere

9922. The difficulty would be that while there is a large number of youthful farm hands, they are very much scattered?—Yes.

9923. You could only get at them in small sections at a time?—Yes, but they are more or less concentrated. The valleys that go up in the most sparsely populated districts contain all the population within a small area.

9924. You require a certain number to make a volunteer company, and somewhat near residence to make it effective. Would that be a difficulty among farm hands?—I think that very likely it would be unless you shortened the hours of labour. If you improved the farm servant, I think there would be no difficulty in shortening the hours of labour.

Bicycle

9925. You have spoken of the free use of the bicycle. The introduction of a bicycle corps attached to a company might be of great interest?—Yes.

9926. It might get at these lads?—Yes. The bicycle, without a proper use for it, is rather a curse than a blessing.

Military training disciplin

9927. You advocated training on military lines. That would be for the sake of the discipline?—Yes.

9928. The gross boorishness of these lads is said to be common to the whole Scottish population. Are they specially bad?—Yes, compared with the Aberdeenshire lads. In Aberdeenshire I think the general

system is for the farm servants to have their meals in the house of the farmer, and with his family.

9929. Whereas in Forfarshire you have the bothy system?—Yes.

9930. These young fellows live with the older men. You used the word 'loafer.' In what sense did you use it?—A person who spends his spare time in doing absolutely nothing, and by his spare time I mean his evenings, and his time out of work.

9931. The word is generally applied to a man who does no work at all. That is not the meaning you attach to it here?—No. At work time they would be very good workmen.

9932. They would be hard workers?—Yes. They have no disposition to shirk exertion at all.

9933. You have advocated gardening, and given instances in which it has been of immense value to these men. Would it be possible to introduce not only gardening but some instruction in the scientific side of the work in which they are engaged—farming. Would they take any interest in their occupation?—That has been tried, but I don't think they do. Mr Bruce, a Bachelor of Science, is paid by the County Council to lecture all over the county. I have never heard that these lectures were popular, or that any farm servants attended them. You will get a few young farmers to attend.

9934. Have these farm servants any idea of being farmers ultimately?—Yes.

9935. But many of them go to other occupations?—Yes.

9936. They don't enter the farming occupation because they intend to advance to the higher grades of it?—The most of them enter it because it is the natural thing for them to do.

9937. It is well-paid labour?—Yes.

9938. There is no inducement to carry that out as the business of their life, and to advance to the more scientific knowledge of it?—A great many of them will take farms after a bit.

9939. The great difficulty would be that they are very scattered, that they change their places frequently from year to year, and that you cannot get a hold of these lads as a whole?—That is so.

9940. Is that why you speak of the less complex system of the towns?—I don't think I should have used that word.

9941. In a town you have large masses easily handled?—Yes. It is less complex to this extent, if that you came to the conclusion that physical training was of such probable advantage that you were prepared to make it compulsory, there would not be the same hardship in making it compulsory in the towns; but there would be a hardship in the country where a boy might have to go fifteen miles.

9942. Do you think that there are insuperable difficulties in bringing these lads under military training or physical training after leaving school?—I hope not.

9943. But there are difficulties?—They seem to me difficult, but I hope they won't be insuperable.

9944. Then you spoke about the food altering for the worse?—Yes, very much so. They still get their allowance of meal, but that is never used, I believe, in the bothy. It is always sold. If you enter a bothy (I have not done so myself, but I have made inquiries) you find it full of whisky and beer bottles, salmon and corned beef tins, tomato tins, and so on. Their sole food now is tinned meat and bread.

9945. On the whole this class of boy is a healthy boy as compared with the boys in town schools?—Yes, but the old farm servants will tell you that they are degenerating terribly through the changed food, and through giving up their porridge.

9946. You could give these boys, however, a large amount of physical training without any danger?—Yes.

9947. *By Sir Henry Craik.*—You don't, I think, raise any objections to the training which boys receive before they are fourteen. You think the work there is done fairly well?—Yes, excellently.

9948. Except that you think that there ought to be more development physically?—I think it would do them good.

9949. It would do them good at a later stage of life. You say that you find that they develop into first-rate citizens?—Yes. I should like very much to read what the Chief Constable of Forfarshire says about training, as he has actually seen it in turning ploughmen into policemen.

After fourteen: some systematic training.

9950. I might just pursue this. You think that they have to go through four years which are exceedingly dangerous, and which lead to a great waste. That is between fourteen and eighteen?—Yes.

9951. They have no guidance and no systematic training either mentally or physically during that time?—That is so.

9952. You have no doubt whatever of the advantage it would be to them and to the community generally that they should be brought under some such systematic course of training?—I have no doubt about it.

9953. You only dread the compulsion?—I should not dread it at all if I thought you could compel them.

9954. Do you think it would be unduly hard to compel them to a comparative short attendance in the evening when they are compelled up to fourteen to attend at school?—I don't think it would be hard, because I think if they would go voluntarily they could do it without any difficulty at all.

Continuation classes: physical work should be part of curriculum.

9955. Whether evening school attendance is to be compulsory or not, you think that a certain amount of physical training should be a necessary part of the curriculum of every evening school?—Yes. Is not physical training much more important to these persons than anything else? There is always danger if you educate the people too much, that they give up the farm-servant's life altogether, and go away into the towns to become badly-paid clerks, and after a year or two they come back less efficient workmen, having failed in the towns.

9956. Just as we require physical training to be part of the curriculum of the day school, you think it more important that it should be part of the curriculum of the continuation classes?—Yes, in the country certainly.

9957. *By the Hon. Thomas Cochrane.*—You draw a very graphic picture of the whole life of the farm-servant. Is that drawn from your own observation?—Yes, entirely.

9958. You go into details as regards their general conversation in the bothies. Of course, that is second-hand?—In every affiliation case, for instance, one gets a sample of the kind of conversation that goes on every night, and then when the farm-servant of A fights with the farm-servant of B, you get the whole conversation. I have not got it by going round the bothies myself at night, although I think that that would be quite a proper thing to do.

Farm servant: good material wanting careful training at the receptive age fourteen to eighteen.

9959. I see that you say that your general opinion is that, although he is rough in his manner, he possesses certain virtues. Dishonesty is rare?—Yes, very rare.

9960. He does not suffer from some of the smaller crimes?—That is so.

9961. In fact there is splendid material, and the best is not made of it?—That is so. It must be wonderfully good material, because one would think that with such a training a great many of them would lapse into crime and become absolutely useless, but as a rule they do not. Most of them survive it.

9962. There is a general false impression of what creates independence?—Yes.

9963. He mistakes roughness of manner for independence?—Yes.

9964. Probably that is the fault of not having any examples before him?—Yes, and never having been properly disciplined. Any training that a young boy gets, if it is not completed after the school age, really counts for very little when he grows up. The receptive time is between fourteen and eighteen, and that is when everyone is teaching him independence.

9965. When you say in your evidence 'deferential,' you don't mean subservient?—No.

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Farm servants easily trained to be policemen: testimony of chief constable of Forfar.

9966. You mean a courteous manner?—Yes.

9967. You go on to say that after they have been trained as policemen they improve in many respects, and you were going to give us the experience of the Chief Constable in regard to the training of them as constables?—Yes. I happened to be in Forfar two days ago, and I showed my evidence to the Chief Constable, and asked for any suggestions that he could make. He agreed generally with me, and said that he would send me a few notes, which I got. He was himself a farm-servant. He entirely agrees that the bothy system is most fatal, and he also agrees that if you take farm servants away from the farm they are very easily trained by physical exercise, much more easily trained than I should have thought. Before he became Chief Constable of Forfarshire, he was Deputy Chief Constable in Aberdeen, where he says they have the most complete gymnasium of any place in Scotland. What he says about training is: 'I 'fully appreciate and endorse what you say in connec- 'tion with the improvement that takes place in the 'habits and general bearing of the farm servant on 'becoming connected with railway or police service. I 'am speaking from experience when a member of 'Aberdeen City Police Force, and where there is 'probably the best equipped police gymnasium in 'Scotland. Aberdeen City Police is almost wholly 'recruited from the farm-servant class, and I have seen 'many recruits taken into the police service that, from 'their appearance, one would think it was impossible 'to make a decent-looking policeman from such raw 'material, but after a course or two at the gymnasium, 'it was simply marvellous the transformation that had 'taken place in the course of a few months. The raw, 'slouching, sullen-looking man had suddenly changed 'into a much smarter, better-shaped and much more 'amiable being. He was not only improved in general 'appearance, but his manner of address and whole 'bearing was so much changed and improved, that on 'going back to his home during his annual leave, his 'friends and acquaintances almost despaired of it being 'the same man. It is almost impossible to over- 'estimate the good that was done, both morally and 'physically, by the training in question.'

9968. He comes to the conclusion that this kind of training improves the manners and appearance, and that is a valuable asset in ordinary life?—Yes.

Mr P. B
15 Sept

Continu classes: attractio bicycle c rifle sho

9969. There are two points that you brought before the Commission—one is, that in order to get at these lads, you must either make continuation classes attractive, in order to get them voluntarily to take interest in the work, or you must compel them to attend?—Yes.

9970. Can you suggest any way in which you could make physical training attractive? I think you alluded to a bicycle corps?—I think that that would make volunteering attractive. Bicycles are more or less new to those people, and they get them cheaper now. They are certainly very much more numerous among the labouring classes than they used to be, and I think that if anything was to be done in the way of getting up a volunteer bicycle corps, it would probably be successful.

9971. Would they take an interest in rifle ranges?—Yes, and shooting competitions.

9972. And an interest in boxing?—That is rather a dangerous thing to teach them, I think.

9973. It was brought under our notice by Lord Meath very strongly, and he described what an excellent cure boxing was for hooliganism. You think that in those ways you might make it attractive and get them to come to the continuation classes?—I think so.

Gardens.

9974. As regards your remedy of gardens, would that be of any use to a lad between fourteen and eighteen in a bothy?—I think it would. The railway porters I spoke of are, I should think, men between seventeen and twenty.

9975. You think that the ordinary young farm labourer between fourteen and eighteen could be induced to work in a garden?—I have a strong feeling that to do nothing is not natural to anyone, and not desirable, and if there is anything to do, especially if it becomes the fashion to do it, the farm servant will do it rather than do nothing.

9976. You hope that local effort might be brought to bear upon this problem of occupation for the young men?—Yes. It would need to be done very carefully. It is just one of the ways in which one sees the want of discipline, the want of respect, that those fellows are apt to resent anything that is done to help them unless it is done very carefully.

The witness withdrew.

Mr G. Smith.
15 Sept. '02.

Mr George Smith, examined.

Mr G.
15 Sep

9977. *By the Chairman.*—You are headmaster of Merchiston Castle School?—Yes.

9978. You have handed in a *précis* of your evidence?—Yes.

1. I was educated at Ayr Academy, Edinburgh University, and Oxford (Trinity College). On leaving the University I became a master for one term (September to December 1891) at Edinburgh Academy. From January 1892 to July 1898 I was an assistant master of Rugby School. Since September 1898 I have held my present position as headmaster of Merchiston Castle School.

2. Merchiston Castle is a public school (in the English acceptation of the term): it is mainly a boarding school, but a limited number of day-boys are admitted on condition that they are subject to the same discipline as boarders with regard to games and other school activities (*e.g.*, choir, Sunday service, and the like).

The school is divided into two departments, the Big School and the Preparatory. In the Big School there are about 110 boarders and 40 day-boys. The ages run from thirteen to nineteen. The work done is the usual work of such schools, training for entrance to the University and for scientific and commercial work. In the Preparatory there are about 30 boarders and 60 day-boys. The ages run from eight to thirteen.

Games: organisation.

3 (*a*). Rugby football is played in winter by all boys unless those who are certified by the school doctor as physically unfit to play. Cricket is also played by all the boys in summer. Hockey is played during March to fill in the time between the close of the football season and the beginning of the cricket.

These games are organised and supervised partly by masters and partly by boys. There is a football committee and a cricket committee. Each of these consists of a master, the captain of football (or cricket), and another boy. The committee classifies boys in teams according to their size, skill, and strength. [In football it is of the utmost importance to take *size* and *strength* into consideration in classifying boys. To put a small or weak boy into a team, the average weight and strength of which is above his weight and strength, is either to make him run serious risk of bodily hurt or to teach him to funk.] The practice games of the juniors are supervised by masters or prefects, or both. The big side practice games are also taken part in by old boys; this is useful as helping to promote keenness and corporate spirit as well as skill in the game.

In cricket there are, in addition to masters and old boys, two professionals who bowl to and coach the teams.

Hockey is not yet completely organised with us, and is at present rather a stop-gap in a slack season. But it is a good game, requiring co-ordination of hand and foot in perhaps a more delicate degree than football does; and I hope that it will shortly be a regularly organised school game played by all the boys.

(*b*) The field is about 14 acres in extent, and is about 300 yards from the school.

(*c*) There is a school gymnasium. Every boy has two periods a week of gymnastics. The classes are taken by an instructor (Mr P. Stroud). There are from 15 to 20 boys in each class. Each period begins with a quarter of an hour or twenty minutes of dumb-bell or bar-bell drill. Thereafter there are exercises on the parallel or the horizontal bar, the sloping ladder, and the vaulting horse.

In addition to this the boarders in the Preparatory School have two hours per week in the evening of Swedish gymnastics (free movements).

The above-mentioned work in the gymnasium is compulsory, and part of school routine. In addition, the 'new boys' of the year are taken in extra gymnastics by the prefects for half an hour on two evenings in the week; the First Fifteen do twenty minutes' gymnastics after tea; and the senior boys learn boxing (forty minutes) on Friday evenings.

Every boy has a pair of light dumb-bells in his dormitory, and uses them for a few minutes every evening.

(*d*) *Athletics.*—School sports are held at the beginning of April. For these boys practise for three weeks previous. The sports include the usual events:—running (100 yards, quarter-mile, and mile), jumping (broad and high), putting weight, throwing cricket-ball, drop kicking and place kicking.

(*e*) Boys who are not playing football on any day go for a training-run (unless they are playing fives). The training-runs are, as a rule, short—from one mile to three and a half. These 'runs' are part walking and part running. Continuous running for the whole distance is discouraged, as tending to spoil a boy's action by producing a flat-footed jog-trot, and as liable to produce heart-strain in boys who are not yet come to full strength.

Once or twice a year there is a long run over the Pentlands (seven to nine miles). The boys go to Currie or Balerno by train and run and walk home.

Unless one goes some considerable distance from school there is hardly scope and room enough for *paper chases*. This is somewhat to be regretted; as a real paper-chase offers more stimulus of variety and competition than a training-run offers. But after all it is well that the element of competition should not enter largely into such runs.

(*f*) *Handicrafts.*—There is a small workshop at the school. The work done in it is limited in quantity and variety, and not all the boys take part in it. About twenty boys are engaged in making fishing-rods, golf-clubs, book-shelves, model yachts, and the like. The work is done under the superintendence of a master. It is done at odd times, not as part of the school routine.

With a larger workshop, which we hope soon to have, there would be further development of this side of training; but I think I should not make it compulsory.

In the Preparatory, the boarders are taught basket-making and woodwork two evenings every week.

(*g*) *Voice training.*—All the boys learn singing. One period a week is given to this. The music-master (resident) looks after this. He also tests the voice of every new boy, and puts him in the choir if his vocal powers fit him for it. In the singing lesson care is specially taken to train boys to breathe, articulate and produce their voice in the proper way. Boys who prove to be incapable of producing melodious sounds take extra gymnastics or drawing instead of singing.

(*h*) *Cadet corps*, etc.—The cadet corps is composed of all the boys in the Big School. The majority of the boys are in the ordinary infantry company. The smaller boys are classified as scouts, cyclists, or stretcher-bearers, and practise the drill associated with each of those branches. All wear uniform; the infantry wear doublet and kilt—a pre-eminently unpractical uniform in warfare, but excellent for occasional drill and parade; the rest wear Norfolk jackets and knickers and putties. The corps is attached to the Q.R.V.B.R.S., and boys above seventeen are sworn volunteers. The corps is commanded by a captain and a lieutenant (both masters), and has attached to it a sergeant-major and an ambulance instructor.

Boys above seventeen years of age are sworn volunteers in the Q.R.V.B.R.S. They pass their annual shooting-tests; but apart from this there is practically no practice in rifle-firing at a target. The difficulty of finding convenient times to use the ranges, and the large amount of time that is necessarily spent in going to and from the ranges, prevent us from developing this form of training more than we do. *Mr G. Smith.* 15 Sept. '02.

(*i*) *Swimming.*—There is no swimming-bath at the school yet. We use the swimming-bath of the Edinburgh Hydropathic—a mile distant. Practically all the boys learn to swim; but there is no compulsion. Boys generally go (on bicycles) to the bath before breakfast, and on certain hours of the afternoon in summer. Swimming.

(*j*) *Fire Brigade.*—Two squads, of eight each, are taught the use of the hydrant and hose, and the corridor pumps as attached to the school. Fire brigade.

(*k*) *Ambulances.*—In addition to the training of stretcher-bearers, who are small boys (*vide* 3 (*h*) above), there is an ambulance class of sixteen of the bigger boys who get a course of ambulance lectures from Dr Dowden in the winter terms.

4. The following table shows the time devoted to each of those activities per day and per week:— Time allotted.

		Hours per day.	Days per week.	Hours per week.
All boys do	Football (or Hockey or Training Run),	1	6	6
	Gymnastics,	¾	2	1½
	Voice training,	½	1	½
	Cadet Corps,	1	1	1
				9½
Some boys do	Extra gymnastics (say)	½	2	1
	Boxing,	1	1	1
	Workshop,	½	6	3
	Swimming,	½	6	3
				8

5. Gymnastics and voice training are taken in ordinary school hours. The others (except swimming and workshop) although not put down in the school time-table, are an integral and compulsory portion of the school curriculum.

6. I think that the most important of these forms of physical training are the school games (football, hockey, cricket, fives, etc.), the gymnastics and the cadet corps.

(*a*) *Games.*—Football, cricket and the like have the great advantage of being *games* and not drill; *i.e.*, they are played spontaneously (the element of compulsion is not felt), and although they are organised and supervised, the details of play are of necessity left to the individual players' wit and skill. They thus make each boy act and think for himself (so far at least as the game is concerned), and not merely do what he is told to do. They are played in the open air, and are recreative as well as educative. Important forms of training.

(*b*) *Gymnastics* are important because they provide a *systematic* means of developing the various muscles and organs of the body. Without gymnastics, training by games alone would be incomplete and defective in part: without games, training by gymnastics alone is in danger of being dull and monotonous. Gymnastics are generally worked in a walled and roofed gymnasium: but it is possible and advisable, in summer at least, to do much of the work in the open air.

(*c*) *Cadet Corps.*—The cadet corps is very valuable as a training of physical, intellectual and moral powers. Physically, it trains to erectness of bearing and good action in walking. Intellectually, it trains to concentration and continuity of attention. The necessity to be always alert for a sharp word of command, and to be prompt to carry it out at once, trains the will power in attention, and increases greatly the co-ordination of the receptive senses and the active powers. This necessity is felt most strongly in military drill. It *can* be inculcated also in combined gymnastic drill (free or with dumb-bells), but not so easily and inevitably: the tradition of smartness and promptness in *military* drill is very strong.

Morally, it teaches *esprit de corps*, the power of con-

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certed action, and at least a rudimentary notion of the military duty of a citizen and of patriotic action. It is felt (often, I daresay, subconsciously) that cadet corps drill is not undertaken for fun or for purely individual purposes, but for a national purpose

Opportunities: almost all compulsory.

7. These opportunities of physical training are taken advantage of by all the boys. They are almost all compulsory. But compulsion does not produce distaste. Partly the spirit of competition, partly the fact that physical growth and development are easily measured and noted (as contrasted with mental growth), mainly perhaps the human nature in a boy, which leads him to put his limbs and lungs in vigorous motion, and the desire not to fall behind the tradition of the school, tend to make most boys keen on using all the opportunities they have.

Results: physical, mental and moral advantages.

8 and 9. Briefly, the results of such training are good. It is good for bodily health. Overstrain must of course be avoided. This can be done satisfactorily by a medical examination at the beginning of a course of training (and in the case of specific weakness by a repetition of such examination at such intervals as the doctor and the masters think necessary), and by careful observation on the part of masters, who can generally detect signs of overstrain in the appearance or the play or the work of a boy.

I have mentioned already (No. 6) the intellectual good results of games (*e.g.*, initiative), and of drill (*e.g.*, co-ordination and concentration). Physical exercise is of course indirectly useful to the intellect by the fact that it keeps the body in good health, and this reacts on the mind. There is, however, a distinct danger of physical training taking up too much of the thoughts of some boys, as there is of intellectual training taking up too much of the thoughts of some students. But the danger is less of an evil so long as the boy wants to *do* things himself, not to merely *look on* while other athletes do them. The *parasitic* interest in physical exercise is perilous and sometimes degrading; the *active* interest is healthy in tendency, although it may be overdone. When this active interest depends in great measure on the thought that physical fitness is a duty, there is little danger of loss of perspective; and intellectual training and development are in no danger of getting less than their fair share of attention also.

The moral results of games are mainly seen in the development of courage (especially in playing a losing game), of corporate spirit (the utter absence of this makes golf an inferior game for schools), and of the sportsmanlike (or chivalrous) spirit (*e.g.*, unquestioning obedience to the referee or the umpire, especially when he gives wrong decisions, and absolute observance of the rules of the game are recognised by all boys, theoretically at least, as binding duties, and are a sort of training in honour and in self-restraint).

In drill the subordination of the individual to the community (corps, or school, or nation); in gymnastics the implicit recognition of future excellence as a motive for present drudgery, are useful results.

One should only add that the boys are generally unconscious of these moral effects. If they were not, there would be serious risk of their becoming prigs.

System; certain principles essential; but freedom desirable.

10. Some kind of system, with definite principles based on proved facts, should of course be followed; but I think that there is room for much diversity in detail in the adaptation of the system according to the nature and bodily powers of the scholars, the circumstances of the school, and even the predilections of the teacher. Thus some teachers like *musical* drill as a gymnastic exercise, because it helps to produce rhythmical movement and it gives pleasure; others object that the music gives *too much* help, and saves the pupil from exerting the will-power in attention, which is an important element in such an exercise, and they prefer a drill involving similar movements but allowing the pupil to attend to the time and rhythm for himself. In such a case, when there is obviously truth in both views, it is economical to let a master follow his own belief—he will teach all the better because of it.

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11. I should think, however, that a skeleton system could be drawn up which should guide the teacher in theory and not hamper him in practice. Such a system would state the proportion of time which should be *generally* devoted to physical exercise, and what proportion of such time should *generally* be given to free movements, gymnastic drill (with dumb-bells or other apparatus), and military drill and games; but it should be clearly understood that these things are only generally (not universally) true, for the normal boy and the normal teacher, and that much latitude is permissible for exceptional classes of boys and for exceptional teachers. It would probably be advisable to agree upon some sort of manual of physical training, and to recommend it as a guide without tightening the requirements into a Code to be rigidly adhered to.

Games might almost be left to take care of themselves, provided that suitable ground and sufficient opportunity for playing them is afforded. But there should probably be an indispensable minimum of gymnastic and military drill demanded.

Time: proport

12 and 13. A just proportion of time and attention given to physical training reacts on and quickens the power of mental study. Again, there is no hard and fast rule. The adult has to discover for himself what is the just proportion for *him*, how much time he must give to physical exercise in order to keep his body and brain fit for his work. For most boys between fourteen and eighteen I should think that an average of 1½ or 2 hours daily of conscious and systematic physical exercise to 7 or 7½ of mental study is about right; but I make this statement with diffidence, and am ready to admit that it is subject to all manner of modifications.

A great deal depends on the kind of exercise. Thus a hard match at football (one hour only) would take it out of a boy more than twice as many hours devoted to workshop, singing and drill; just as a three hours' examination for the army or the civil service would take it out of a student more than six hours' work in his study. A great deal also depends on the kind of boy.

The just apportionment of time and attention to physical exercise is, however, of extreme importance. If too little time is given, the mind suffers from the sluggishness of the bodily functions. If too much, the boy may become too exhausted physically to exert his brain power, or he may transfer too much of his keenness and attention to such exercise. Again, a general rule is useful as a guide in theory, but the individual must be studied in practice. After all, pedagogic is full of general rules to which most boys are exceptions.

Physi exerci shoul daily.

14. I have no doubt that physical training is most advantageous when it is carried out daily in connection with school work. One great point which is thus gained is that physical fitness up to the standard of the individual's natural powers is unconsciously inculcated as a duty parallel to the duty of intellectual equipment and of moral strength. I think that when this aspect of physical exercise becomes prominent in a boy's mind, it forms a considerable safeguard in later life against the danger of physical loafing and the danger of merely spectacular athleticism. Again, for almost all men (I am thinking mainly of professional men) it is important that they should have formed the habit of devoting a certain time daily to physical exercise, and this habit is best learnt at school.

Outd train adva

15. The chief merit of *outdoor* training is that it ensures a good supply of fresh air to the lungs. This is an advantage that can hardly be over-estimated. During physical exercise more air is required to pass through the lungs than during physical quiescence. If pure fresh air is available, much is thereby done, primarily, to make and keep the lungs healthy, and, secondarily, to freshen, recreate, and strengthen all the functions of the body. Even a dozen full deep breaths, taken in the open air, with accompanying chest expansion movements, so as to open up and use all the corners of the lungs, have a very invigorating effect.

The only merit of indoor training, as such, is that the pupil is protected from inclemency of weather. I am inclined to think that too much importance is attached to this merit. It is probably advisable to shelter from rain when possible during military or gymnastic drill; it is certainly necessary to prevent the bars, the ladder, and the vaulting horse from getting wet. But, so far as cold is concerned, it is very seldom that the weather is so cold that the physical movement and activity of drill will not keep a boy warm in the open air, and I should say that a roofed (but not walled) shed would be the best place for working such drill.

Besides this, out of doors is associated in a boy's mind with more pleasurable activity than indoors, and thus the exercise taken out of doors is more likely to be recreative and enlivening than indoor drill.

16. I am convinced that some form of military drill should form part of the ordinary curriculum of every school. I have already mentioned (Pars. 6, 8, and 9) what I think are the chief advantages of this form of physical training. Physically, it tends to produce an upright carriage of body and good action in walking. Intellectually, it quickens co-ordination of the recipient senses and the active powers, and educates the attention in concentration and continuity—perhaps the most important and most difficult lesson for a boy to learn. Morally, it calls out and strengthens corporate spirit and teaches some sort of rudimentary patriotism.

I do not think that such military drill should be treated as 'technical training' for a soldier's life, but rather as an aspect of general culture. Its main aim should be to produce an efficient citizen, not a trained soldier. It has not been my experience that cadet corps' drill tends to make a boy in love with a soldier's life. The hard work of drill counterbalances the attraction of uniform and show, and the boy who has been a member of a cadet corps is more likely to decide wisely and on sufficient grounds whether a soldier's life is the best life for him. Thus, although the cadet corps at Merchiston is one of the most important of our school activities, the school is not by any means military in character. There is an army class, and one or two boys enter Woolwich or Sandhurst every year. There were about forty Merchistonians serving in the South African war. Not a few boys become volunteers after leaving school, and those who do so are generally very keen and efficient, as they enter on the work with their eyes open to its nature.

16A. There is, I should say, absolutely no basis in experience for the notion that compulsory cadet corps is a method for recruiting the regular army or a step towards conscription. It is a pity that some people (few, I think) think that it is. The avoidance of the name '*military drill*' might tend to dissipate the delusion; but it would also tend to weaken the intellectual and moral effects of such drill. Ordinary gymnastic drill could probably be so systematised as to produce as good *physical* results as military drill. But strictness of discipline and promptness of obedience are so inevitably connected with military drill, and the feeling of corporate interest is so fostered by association with a citizen army that I should consider it a serious loss if such connection were cut by dropping the name of military drill.

17. I think that any system which includes the spontaneity and initiative of games, and the methodical training of gymnastic and military drill in fair proportions, is to be recommended. I fear that I am not familiar with the details of any one system. I feel certain that there is more peril in adhering rigorously to a system (however good) without consideration of local and individual peculiarities, than there is in laxity and lack of uniformity of method.

18. A class of senior boys is formed each year in ambulance work and theory. In addition to this, there are occasional health lectures given to all the school on the bodily powers and function, muscle, brain, lung, nerves, and the veins, and on the proper exercise of breathing, walking, running, bicycling. These lectures are not systematic, but occasional and popular, and are given by old boys or by doctors who are specially interested in spreading this kind of knowledge.

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Results: advantages of an all-round training.

19. I have already indicated (Pars. 8 and 9, 12 and 13) what are the results of my experience regarding physical training. The chief danger in it is not physical overstrain, but mental loss of perspective and exaggerated interest in merely physical development. It is perhaps worth noting, however, that interest in any good thing is liable to exaggeration, and yet enthusiasm is absolutely necessary as a motive power. Further, where physical exercise is treated as a conscious training for full and healthy life, and not as a mere means of display, the evils of exaggerated interest, even when it exists, are minimised.

So far as my own experience goes, I have found that physical training, methodically carried out as part of the discipline of school, does not as a rule tend to 'athleticism' in the bad sense of the word. I should be far from saying that that result is unknown; but, on the other hand, there are excellent results which far more frequently follow: improved bodily powers for certain, better knowledge of the conditions of health, promptitude and alertness in practical matters, courage in physical peril or emergency, and in general a completer and more vigorous life.

It is probable that mental study sometimes suffers from competition with physical training: on the other hand, it is certain that the analogy of keenness in games, in order to promote physical efficiency, produces not infrequently keenness in study in order to promote mental efficiency. And on the whole it is far better that a boy should leave school sound in wind and limb, keen and active in spirit, having learnt the lesson of attention to the work in hand, and ready to learn the other lessons of practical life, than that he should leave it book-learned and exhausted.

Training at Merchiston sufficiently organised.

20 and 21. The physical training at Merchiston is, I think, sufficiently organised and supervised. The gymnastic instructor is duly qualified. The military drill is conducted by a sergeant-major of the Q.R.V.B., under the command of two masters, who are Captain and Lieutenant of the Cadet Corps, and who hold commissions in the Queen's. None of the other masters on the staff has, so far as I am aware, gone through any (teaching) course of instruction in gymnastic or physical training. Some of them, however, know the games (football, cricket, etc.) well, and are well qualified to act as coaches for the boys in these; and all are interested and keen on physical training, and consider it part of their duty to note, report, and, so far as possible, correct physical defects or weaknesses. The late Vice-Master (Mr J. R. Burgess) had made himself an acknowledged authority on physical training, and had, I believe, done a good deal to further it in the North of Scotland by giving advice and other help in the institution of gymnasiums and cadet corps. Several of the senior masters have also now attained considerable knowledge by experience, and the advice of the school doctor (Dr Burn Murdoch), who is also keenly interested in the physical education of the boys, is of great value.

It will thus be seen that while we depend for actual teaching in gymnastic drill on trained instructors, the system depends also for its success on the general interest taken in it by all the staff. I have not found any trace of a tendency among the teaching staff to think of physical training as a separate department, the claims of which clashed at times with the claims of study. It is considered by all as an integral portion of education-work.

By the way, I think that when physical training is taken up seriously, there is sometimes a danger of over-organising and over-supervising games (no such danger in drill or gymnastics), and of organising the fun and the spontaneousness out of them. I have not, however, seen this happen anywhere in my experience.

Medical inspection: new boys examined:

22 and 23. All the new boys are examined by the school doctor, Dr Burn Murdoch. He examines specially their lungs, heart, throat, nose, and general physica development. (Sometimes the eyes, ears, and

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but not again unless specially necessary.

teeth have also a special examination made of them.) Points of weakness are noted and instructions given to the gymnastic instructor to give special exercises to boys who need them for poor chest-development or tendency to curvature of the spine. The boy himself is also told what he can do by exercises with light dumb-bells or the like to further his own development. Sometimes the parents are informed of a weakness in nose or throat or the like which can be made good by a slight operation.

When a boy comes to school we receive a schedule from his parents, on which is stated (among other things):—

(*a*) Whether he has any ailment (*e.g.* rupture, heart disease) rendering 'school games' or any of them inadvisable.

(*b*) Whether there is any peculiarity in health (*e.g.* seeing or hearing defective) or constitution (*e.g.* family tendency to consumption, rheumatism), which should be mentioned.

(*c*) What other illnesses (*e.g.* pleurisy, congestion of the lungs) he has had.

These statements help to guide the school doctor in his examination. He then decides whether a boy is fit to take part in all the normal physical training of the school, and if he is not fit, how far it must be dropped or modified in his case.

In the case of a healthy boy the examination is not repeated; but in the case of weak boys it is repeated at such intervals as the doctor thinks necessary, or whenever any sign of exhaustion or overstrain seems to have been detected by any of the staff.

School register of measurements kept.

24, 25, 26. A school register is kept, showing the height, weight, girth of chest, biceps, forearm, and head. I am inclined to think that we might advantageously add measurement of lung-capacity by means of a spirometer, as chest girth *may*, owing to mere muscular development, be a fallacious index to this. But the error, where it exists, would generally be a trifling one, and not likely to cause any serious miscalculation.

These measurements are generally taken in October, December, March, and July by the gymnastic instructor.

Suggestions.

27. The following suggestions occur to me, some as practicable and advisable, others as ideally desirable, methods of improving the physical training of the youth of Scotland:—

(1) certain course of training, including physical and military drill, compulsory in all schools.

(1) In all schools, primary and secondary, a course of physical training of a sufficient number of hours a week should be compulsory for all the pupils (exceptions and modifications to be permitted only on the recommendation and advice of a doctor). The details of the course would vary in primary and secondary schools, and would be adapted to the nature and age of the pupils; but physical drill and military drill would form a part of each.

(2) games should be encouraged in primary schools.

(2) School games, football and the like, should be encouraged in the primary schools especially by the provision of school playing fields, and by securing the co-operation of masters (or others) who know something of athletics in arranging the games, and seeing that *small* boys do not play in teams too big for them. The co-operation of masters, who are known by the boys to have other interests besides football, seems to me exceedingly valuable: their example will tend to prevent the exaggerated interest in games which I have already mentioned as a danger.

(3) cadet corps in secondary schools might be compulsory: grant.

(3) In secondary schools cadet corps should be encouraged. I think that service in a cadet corps might be made compulsory on all pupils of such schools. In any case, a grant should be given to efficient cadet corps sufficiently large to cover their necessary expense. The increased civic and possibly military efficiency of the pupil would justify such a grant. I think, too, that the grant should be for educational, not specifically military purposes.

(4) cadet corps for boys fourteen to eighteen as centre of

(4) A cadet corps should also be formed for the old pupils of a school (or a group of schools, or for a local division), boys between 14 and 18 years of age. I fear that compulsory service in these is not yet a practicable measure, but it is ideally desirable. If, however, military drill is begun at the primary school, and if corporate spirit is fostered there by association in games, there will be some probability of boys joining these corps in large numbers. If, further, the cadet corps was made the centre of organisation of physical exercise for the youth of the group or district, with arrangements for gymnastics, swimming, athletics, and the like closely bound up with it, this would prove a considerable attraction; it would still further increase corporate spirit, and it would secure that physical exercise should be treated in some systematic way under the superintendence and advice of those in command of the corps. I think that the extension of the cadet corps system among boys who have left school is of the utmost importance. It would tend to produce three good results — better physique, more corporate spirit, and less loafing.

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(5) Opportunities for physical training should be provided at all (or nearly all) continuation classes. The co-operation of doctors and old athletes as managers and lecturers and demonstrators should be welcomed, and employers of labour should be invited to encourage their young employees to join such classes.

(5) conti tion clas should h opportu for train

9979. *By Sir Henry Craik.* — The boys in Merchiston Castle School are of the better class of society socially?—Yes.

9980. Have you had any experience of State-aided schools?—Not since I was a boy. I was at a Board School myself.

9981. A Scottish Board School?—Yes. I have had no experience since then.

9982. Looking to your recollections of that school, and comparing it with what you know of Merchiston Castle School, would you say what are the comparative merits of each system in regard to physical training?—I don't think that the system of the old Board School had any merits at all in the matter of physical training. Physical training was non-existent.

9983. Where was your school?—At Ayr.

9984. Not the Academy?—No, one of the ordinary State-aided schools. That was before I went to the Ayr Academy.

9985. There was no physical training? — No; of course we played games: all boys do that.

9986. But you played them, left to yourselves?—Yes, and somewhat discouraged by the masters, who looked upon football as being a rough game.

9987. They looked upon games as taking up time from your lessons?—I don't think so. I think it was mainly because it was counted to be rough.

9988. You don't know anything of such schools in towns?—No.

9989. If football were introduced largely into ordinary State-aided schools, especially in towns, there might be a danger of it becoming rough?—Yes. I think it exists among day schools here: they have a kind of league matches with one another.

9990. These matches must employ the picked boys rather than the great mass of the boys?—Yes, unless the thing is looked after by masters and fully organised.

9991. In your case at Merchiston Castle School, you carefully superintend the games?—Yes.

9992. But you consider the games are more prominent on the whole than any sort of regular drill?—Yes, the games are more prominent from the boys' point of view, but I think that regular drill from the school point of view is almost more important.

9993. Even in the case of Merchiston Castle?—Yes. By drill I mean gymnastics and military drill. Military

9994. You have more than most schools developed the military drill?—Yes, I fancy that ours is the only cadet corps in Edinburgh.

9995. Your cadet corps is affiliated to the Queen's? —Yes. Cadet co

9996. You think that the system of drill has great advantages, but you don't care for the affiliation?—That is so.

9997. In what way?—In order to get the grant, we have to swear-in as volunteers the boys who are of

volunteering age, and some of the conditions for getting the grant are not quite suitable for boys. I am thinking mainly of the present condition of one week's camping.

9998. Don't you do that?—We do. This year is the first time it has been compulsory, and we sent those of volunteering age into camp. It would be much better, however, if we had cadet corps camps rather than a volunteer camp.

9999. You mean separate from the ordinary camps?—Yes. I think there are disadvantages in sending a company of boys to a big Volunteer or Military camp; at least there are probably disadvantages, although I have not found them in experience.

10,000. As regards the general training which drill gives you, you are entirely in favour of it in your own school?—Yes, I think it is extremely important.

10,001. From your recollection of the Board School, you would be inclined to place it at higher importance in a Board School?—Yes.

10,002. You do that because games cannot be introduced so well into Board Schools?—That is so. I think the introduction and development of cadet corps are very important.

10,003. You don't find that the development of the cadet corps so far as it involves a certain amount of training upon military lines and regular discipline and systematic exercise is in any way productive of undue uniformity or deadening in its influence?—No.

10,004. You think that the moral as well as the physical effect is thoroughly good?—Yes.

10,005. By whom is that drill carried out? Are the officers of the corps the masters in the school?—Yes, the captain and lieutenant are masters in the school, but the ordinary drill is done by the sergeant-major of the Queen's.

10,006. What training have the officers gone through?—The present officers, I am afraid, have gone through no training, but they will have training before next term. They are new officers, and they will have had a month's training at Glencorse or some other barracks.

10,007. The sergeant is a regular trained man?—Yes.

10,008. On the Aldershot system?—I suppose so.

10,009. You have not found that the physical training and the thorough development of it has in any way injured the intellectual activity of your pupils?—I don't think so. I have seen one or two cases where a boy was so keen in getting through some examination that he was in danger of over-working himself by trying also to be an efficient member of the fifteen while cramming hard for an examination.

10,010. To prevent that requires, even in your school, great care?—Yes.

10,011. It would require greater care in the case of great masses of boys?—Yes, that is if you had any very strong competitive element.

10,012. You have a regular medical attendant and medical inspection at your school?—Yes.

10,013. Are the boys inspected when they enter and during their attendance at school?—They are always inspected when they enter. If they are in absolute normal health they are not inspected afterwards.

10,014. The medical officer does not look out for any physical defects?—He does when the boy first comes to school, but not every year.

10,015. He does not take regular notes of the physical progress of the boy?—Not except in cases that seem out of the ordinary, a case of a special weakness and that sort of thing.

10,016. Where any weakness was developed in the course of a boy's attendance, you would have opportunities of noticing them and would leave it to the doctor?—Yes, I think that is always noticed.

10,017. You find that to be a very important element in your school life?—Yes, because in a school like ours, where physical activities are compulsory, we have to safeguard them by having the doctor to certify that such compulsion would be good for the boys.

10,018. Looking back to your own recollections of the Board School, where there was no such medical examination, do you remember any cases of boys weakly perhaps in physique who would have been the better of such inspection?—I cannot think of any individual cases.

10,019. Of course, as a boy you would not notice them?—That is so.

Medical inspection: very important for Board School children.

10,020. You do agree that it would be very important to have such medical inspections?—Yes, very.

10,021. Almost more important in Board Schools than in schools where the pupils have full attention at home?—Yes. Although the medical inspection at Merchiston only affects four or five boys each year, there is so much good done by that that I think there is bound to be even more if the new boys were examined at any school when they entered—there are so many little defects that have not been noticed.

10,022. At all events you think that such medical inspection would be even more necessary and essential in the schools attended by those large numbers than it is in your own school?—Yes, if it can be carried out.

10,023. *By Professor Ogston.*—Have you any formula by which your medical man examines the boy at his entrance into the school? Has the experience of your school led you to adopt any systematic set of questions or points which you direct your medical man to examine into?—Not exactly. We have answers to certain questions that we put.

10,024. Answers by the parent?—Yes.

10,025. These are almost useless, or are they only vague indications?—They are only vague indications, but I have them two or three weeks before the boy comes, and we generally communicate with the boy's family doctor, and he sends a report to Dr Burn-Murdoch.

10,026. My point was rather whether you found that from your experience it was an advantage to have a set formula to give your doctor, or whether you found it best to trust to the doctor himself as to the points to be examined?—We simply trust to the doctor himself. It was suggested by Dr Dukes of Rugby that there should be a regular form.

10,027. I have here your register kept by the drill sergeant. The last point was regarding the effect of physical training on mental capacity. Have you means of testing that in your school? For instance, what do your best boys go in for after leaving school?—There are four or five who go to Oxford or Cambridge or Edinburgh, mainly Edinburgh, to become doctors or lawyers or to try for civil service, and we have two or three who go into the army.

Physical and mental work.

10,028. In university and civil service competitions, do you find that the boys who have taken advantage of the physical training are advantageously situated as regards their mental work?—I don't think, so far as I can see, that physical training as it exists at Merchiston has handicapped the boys who would get scholarships. I think that any boy who has failed to get a scholarship has failed, not because of physical training at all. I have never seen any reason to believe that it interfered, except in the one or two cases I have mentioned, where the excitement of competition in physical training handicapped the boy for mental work.

'Military drill': term should be kept: no objections by parents.

10,029. *By Mr Alston.*—In 16A of your *précis* you have touched upon a point that has come before the Commission more than once. You seem to have no fear of the term 'military drill'?—I know it is a term rather inclined to put people off, but I think it ought to be kept if we can keep it.

10,030. You would not agree to the term being dropped in favour of simply 'drill,' so that you could smuggle in your drill without emphasis?—I think the fact of its being military is important.

10,031. You lay great stress upon the fact that it is military drill?—Yes. I have frequently seen gymnastic drill taken by a non-military man, and no matter how smart he is, the difference between the standard of smartness demanded by him and that demanded by a drill sergeant, as in military drill, is very great.

10,032. That is to say, not smartness alone, but there is something in the whole bearing of the company

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under military drill, alert response to word of command, which is quite different in other methods of physical training.—

10,033. You would be sorry to lose such results?—Yes.

10,034. Have you heard any views from the general public, and the parents of boys, in connection with this military drill?—I am afraid I have not.

10,035. You have heard no objections taken?—No.

10,036. The cadet corps is the backbone of your military instruction at Merchiston?—Yes.

10,037. That is drilled once a week?—Yes.

10,038. It has a kilt, which you don't think very suitable for practical purposes?—That is so.

10,039. Is there anything in the boys being attracted by the uniform?—That is very difficult to tell. They are proud of the uniform—those who wear kilts are probably more proud of their uniform than the smaller boys with their knickers. You cannot tell if they are attracted or not, because they all have to go.

Cadet corps: good uniform might attract Board School children.

10,040. Have you any opinion with regard to the formation of a cadet corps in connection with a Board School how far this attraction of uniform, and a good uniform such as kilts, would go to attract the boys?—I think it is certain to attract them very much.

10,041. Of course this military drill may be given in the school apart from the cadet corps, but you don't advocate that. You wish the drill to be given as in a military company?—Yes.

Music: drill should be practised without.

10,042. You touched on the question of musical accompaniment, and you drew a distinction between when it might be used and when it should not be used in physical drill. Has it been pointed out to you that the use of musical accompaniment is a serious defect in physical drill, inasmuch as they forget to instruct the boys in the foundation of the drill, and the performance is just an accented movement in time with the music?—That is one of the weaknesses, but I don't know how much weight should be attached to it. We don't have musical drill except for the last week of the term, and that is in order to get up a show piece for the visitors.

10,043. Is there a danger then?—The drill has all been practised without the music, otherwise we would never use the music for the ordinary drill. I think it lacks crispness.

10,044. *By the Hon. Thomas Cochrane.*—It might be difficult to supply military drill in all Board Schools?—Yes, I wonder if a good deal might not be made of the enthusiasm of ordinary volunteers.

10,045. If military drill could not be supplied, you think that ordinary gymnastic drill could be so systematised as to bring about as good results?—Almost as good *physically*.

System of drill with certain latitude.

10,046. You are in favour of some kind of system of drill on definite principles?—Some kind of system of physical training.

10,047. Is there any particular system that you advocate?—I am afraid there is not. I don't know enough about it.

10,048. In paragraph 11 of your *précis* you give a very excellent description of a skeleton system to guide the teacher in theory and not hamper him in practice. You think there should be a general Code laid down giving the individual teacher a certain amount of latitude?—Yes.

Games: assistance of teachers desirable.

10,049. You think that games should be left to take care of themselves. Don't you think that some little assistance from teachers should be given in games?—Yes, I mean that they ought not to be systematised over the whole of Scotland.

10,050. You would not like certain games to be laid down as the only ones to be played?—No.

10,051. You would like to see these games adopted in each school and assisted by the teachers?—Yes, it helps the boys in every way, both intellectually and physically.

Mr G... 15 Sept.

10,052. You think there should be a minimum of gymnastics and military drill in all schools?—Yes.

Training mental a moral advantag extended boys from to eight

10,053. From that physical training you anticipate it would quicken the power of mental study?—Yes.

10,054. It would be a safeguard in later life against the danger of loafing?—Yes.

10,055. You are a very strong believer in some form of physical training?—Yes.

10,056. You would like to see it extended to boys beyond the school age of fourteen?—Yes, the great difficulty is to get the boys between fourteen and eighteen.

Suggesti cadet cor of old pup not com pulsory. attractio

10,057. Have you any suggestions to make?—I have made one suggestion in 27 (4), where I say that a cadet corps might be formed for the old pupils of a school, or a group of schools or a district. I am not certain that a district would not be better. If such a corps were made a kind of centre of athletic organisation, with a gymnasium attached to it and with football teams and so on, it could become a very strong piece of machinery for getting boys of that age to work at physical training.

10,058. You would endeavour to attract the boys into your organisation?—Yes, provided one could not compel them.

10,059. You would compel them if you could?—Yes, if we are ready for that.

10,060. You think the difficulties of attracting boys so great that you would be willing to exercise pressure to induce them to take advantage of physical training?—Yes.

Rugby Merchis contrast better at latter

10,061. *By the Chairman.*—Can you give a contrast between the boys at Rugby school as to their needs for physical education, and the means which they take to receive such education, and the boys of your own school. You were at Rugby before Merchiston?—Yes.

10,062. It would be interesting if you could give us any contrast?—I don't think I could give any very definite contrast; it would be nothing but an impression. My general impression is that the boys at Merchiston are, as a rule, very much better developed than those at Rugby were.

10,063. Much better developed when they come to school?—No, on the contrary, we get more boys who are sent as weaklings.

10,064. Then your system at Merchiston is a better system of physical training than that which obtains at Rugby?—Yes.

10,065. Do you play Rugby football at Merchiston?—Yes.

Games be supp instead gymnas and dri

10,066. Ordinary Rugby football?—Yes. I do not want to say anything that I am not quite certain about, but if I am not mistaken, at Rugby the games were compulsory, but there the systematic physical education ended. Now I have said, and I hold very strongly, that games by themselves are not sufficient; they are liable to leave points of weakness, and a boy will play at that game he likes best and leave undeveloped that portion of his body which requires most development. That is why I think that gymnastics and drill are very important.

10,067. And they don't obtain at Rugby?—They are not compulsory, I think, but I would not make that statement absolutely. I think the boys only went to gymnastics if they liked. There was a cadet corps at Rugby, but it was not compulsory. They were probably much better at rifle shooting than we are, but they got more chances of practising. I think it would improve our shooting if we could send boys up to Bisley.

The witness withdrew.

Mr Roderick Ross, examined. *Mr R. Ross.*

15 Sept. '02.

10,068. *By the Chairman.*—You are Chief Constable of the City of Edinburgh?—Yes.

10,069. How long have you been so?—For two and a half years.

10,070. Before that, where were you?—At Bradford.

10,071. Were you acting in the same capacity there?—Yes.

10,072. How long were you there?—Three years.

10,073. And before that, where were you?—Ramsgate, in Kent.

10,074. Were you acting in the same capacity there also?—Yes.

10,075. You are a Scotchman?—Yes.

10,076. You have been a good deal in England?—The greater part of my service has been in England.

10,077. And it so happens that it has always been in a town?—Yes. I was two years in the constabulary.

10,078. You have been good enough to send in a very interesting *précis*, although it is rather a dismal one, I am afraid?—I will endeavour to brighten it for you as we go along.

I have the honour to submit the following information and statistics concerning crime amongst the juvenile population of this City; also a few comments as to the moral and physical condition of such youth. I regret to have to state that crime amongst juveniles in Edinburgh is steadily increasing, despite the most strenuous efforts of the police to prevent it. The tables will show that all classes of crime are committed by children of both sexes, their ages varying from twelve to eighteen years. It is the same in all large cities and towns—this alarming state of crime amongst the juvenile population. From my experience as Chief Constable of Bradford, and latterly of Edinburgh, I am convinced that juvenile depravity is regulated to a very great extent by the home influence on the child. Take, for instance, a boy with middle-class parents. He has the advantage of a good sound education at one of the many excellent schools in the city, and in the ordinary course of events he passes through the various grades of the school with more or less success, according to his abilities. Unfortunately, however, during the middle-class schoolboy's career there is an intermediate stage during the period from about twelve to fourteen years when he is keenly susceptible to any influence which may be brought to bear upon him either for good or evil. It is at this stage that the home influence for good should be brought to bear most strongly upon the lad. Parents should show a greater spirit of companionship to their children than they do, and should not leave their boys and girls to find their own amusement, no matter where or of what nature. In sadly too many cases which have come under my notice I have found that a boy has gone astray, not so much because of any uncontrollable desire within him to do evil, but simply because he has been left too much alone and has formed all sorts of fantastic ideas, which in company with other lads similarly constituted have culminated in the commission of some serious offence against the law. Too much attention, therefore, cannot be given to the question of home influence, especially in the middle-class families. Many of the cases where I have ordered the children to attend my office, for the purpose of being cautioned as to their conduct, have proved to me beyond a doubt that the parents are often to blame for the conduct of their children. One or other of the parents in the foregoing cases generally accompanies the child to the office, and whilst waiting there they discuss the case with each other, and more often than not take up a brief for their lad and invent all manner of excuses and defences, and at times deliberately lie in support of their case. What can be expected of a child with such parents? Amongst the lowest class of the city, of course, one finds the children most depraved, their parents or guardians in very many cases being criminals of the lowest possible standard. Street trading, in my opinion, is undoubtedly a curse to this class of children. It has been proved again and again during my experience of police work that the street gamin is second to none in vice and wickedness of every conceivable kind; in fact, he reduces the commission of a crime to a fine art. If, however, he is taken from his evil surroundings and placed in an Industrial School or Reformatory, he, in the majority of cases, turns out a success in life. The late war bears out this in a very marked degree, as several instances are recorded of lads who from their training received at such institutions have proved themselves in every way worthy of respect and esteem, and in some cases winning the coveted V.C. Provided a lad is not allowed to return to his evil habits and haunts on leaving the Industrial School or Reformatory, the training, physical and mental, he has received is of the greatest possible benefit to him, and under proper management and guidance he invariably makes his way in life. Newspaper selling, hawking matches and flowers, etc., are the commonest forms of street trading by children. Street trading by children in a city like Edinburgh, with all its evil associations, is in a very great degree conducive to boys becoming thieves, loafers, and gamblers, etc. As for the girls—a very little time elapses before they fall into most degrading and vicious habits, and eventually become prostitutes. As may be easily imagined, the physique of the children of the lower orders is of a very inferior standard owing to their irregular and often unwholesome food and the bad sanitary conditions under which they live. The great difficulty to contend with in establishing some system of supervision by means of continuation classes and a course of drill, etc., would be that of making the children physically fit to stand even a medium course of military training. The life of the ordinary street arab is not one which makes him a good pupil upon which to inflict even the mildest disciplinary measures. Admirable as physical training is in all its forms, I cannot quite see how the youth of the slums of the city are to be reached, and with any lasting beneficial results, unless the legislation with regard to the education of children is completely revised both in the mental and physical branch. In comparison with the middle-class boy, the street gamin or boy of the lower class has by far and away the greater physical strain upon him during the day. The former is at school, and then at night for perhaps three or four hours is engaged with his studies, and exercise or physical training in any form have necessarily to be confined to perhaps one afternoon or evening a week. Whereas the latter, outside what little school-work he does, is at play or at large over the whole of the city all the remainder of the day and well on into the night. I quite admit the exercise of this latter class is not of any specific nature, such as drill, etc., but this is where I am afraid the difficulty will arise—that of reconciling them to a prescribed form of recreation. My experience of the youth of the age of both classes is, that they will go through any amount of exercise in the execution of their own plans and ideas, but ask them to do something which has a useful object, where only half as much exertion is needed, and you will find a very great reluctance on their part to comply.

Training in Industrial Schools of great value.

Street trading: common forms: conducive to crime.

Physique of such children very low: difficult to enforce disciplinary training.

10,079. In your opinion this state of matters is distinctly getting worse?—There is no doubt about it.

10,080. Do you believe that if there were any compulsory measures taken with children of those ages, that is, immediately after school life, it would be feasible, and, in the second place, be ever allowed or popular?—I see no reason why it should not become popular. Surely the parents should see that what is to the interest of the children is a good thing for them.

Compulsion: feasible and probably popular.

10,081. You don't see any reason why it should not become popular?—No.

10,082. You see no reason why it should not be feasible?—No.

10,083. Who is to do it? Who is to be in charge of this compulsory movement?—The School Boards and educational institutions, I think. At present, to my mind, there is not sufficient inducement to the children

Public parks: more inducements for children to play there.

Mr R. Ross. 15 Sept. '02.

to go in for physical exercise and play. For instance, in the parks in Edinburgh there are scarcely any appliances to induce the lads to go there—at least there are no appliances to any extent. To my mind the lads won't go there unless you induce them to go. I have a list of the parks here.

10,084. I don't mean so much the parks as covered-in gymnasia. Does such a thing exist in Edinburgh?—There are gymnasia attached to some of the schools—George Watson's school and the Heriot-Watt school—but I am not aware of any attached to the Board Schools, although there may be. I am referring specially to the public parks of the city. There is not sufficient inducement for the boys to go there.

10,085. You say that there is in this city a very large class that have very little to do; that they do what is not right, and that they would be very much the better of being got at by some means or other in order to give them something to do that would be useful and would keep them out of mischief. That is your opinion?—Yes. You usually find boys, especially of the lower order, who take a delight in doing what they are told not to do, and unless you give them some inducement they won't attend. You cannot get them to attend unless you make it compulsory.

10,086. You rather put that down to the fault of the parents?—Yes.

10,087. Particularly in the case of the middle class?—Yes; the boys of working people are allowed to roam about the streets at will when they come out of school, and they fall foul of the police in consequence.

10,088. You go on to say that in that manner they get out of hand, and their parents have no control over them?—That is so.

10,089. Of course you are aware that any alteration in this matter would be one entailing considerable expense?—I have no doubt of that. All improvements must necessarily incur expense. A halfpenny rate would make a great deal of difference, and I don't think that the working class of the community would grudge that to improve the children.

10,090. Can you bring yourself to say that you think that they would welcome something that would improve their children?—That is my opinion.

10,091. Is your opinion grounded on hearsay or only what you think is natural?—The parents, when they come before me, complain that the children have no place to go to play in. When they go to the parks there are no appliances for them to play with. In some of the parks no games are allowed. The consequence is, that a boy prefers to kick a tin can about the street.

10,092. Was that the same in Bradford?—It is the same pretty well all over. The boys here are no worse than elsewhere, according to my experience.

10,093. The state of affairs is no worse than it always has been?—It is certainly increasing. Probably the police are a little more vigilant, and that may be one reason for it. I don't think that boys are any worse than they were some years ago. In my opinion it arises through the police being increased in vigilance.

10,094. You think there is more vigilance?—Yes.

10,095. They are taken up more than they used to be?—Yes.

Deterioration in conduct: boys much the same, but police more vigilant.

10,096. That rather goes against what I thought I had got from you, that they were deteriorating and getting worse?—Of course, from a statistical point of view, they are; but I am satisfied that the police are more vigilant than they used to be. There have been a number of complaints about street rowdyism, and the police have, therefore, been more vigilant. Of course boys will be boys. Unless the people in the locality complain against the children, the police won't interfere.

Hooligans: none in Edinburgh.

10,097. When you say boys will be boys, you say that they have been boys but not hooligans?—I would not say that they are hooligans.

10,098. You have no experience of hooliganism?—I have some, but I look upon a hooligan as a footpad and a garrotter, etc.

10,099. You repudiate the notion of hooliganism in Edinburgh?—Yes, most strongly. The boys are no worse here than in other cities, and I would be sorry to say that hooliganism exists in many cities in England and Scotland.

Mr R. 15 Sept

Physical education police: more dri beneficia boys in streets.

10,100. *By Professor Ogston.*—Although you are not very hopeful of reaching those boys of whom you have been telling us, you are a believer in physical education?—Yes.

10,101. You have used it extensively among your police?—Yes.

10,102. Would you tell me what you have done; have you introduced gymnasia?—We have not gone so far as that, but we have more drill than we used to have.

10,103. Have you tried to get a gymnasium for your police?—No, the expense is too great.

10,104. You consider that physical training is beneficial to your own constables, and would be beneficial to those boys if they could be got to take it up?—Yes. It would cure the majority of the evils complained of.

10,105. *By Mr M'Crae.*—I think you admitted that this increase is not a real increase, but is rather the result of more careful statistics. I don't know that the question I ask you is applicable, namely, to give the reason why, seeing we have more education and better control, and control up to a greater age in our schools, there should be any increase?—I put it down to the extraordinary number of complaints we get, and the consequent increased vigilance on the part of the police. A boy playing football on the streets would not be interfered with by the police unless the residents in the immediate neighbourhood complained about it being a nuisance to them.

10,106. The word 'middle-class' here is used by you as indicating the better working-class?—Yes, 'working-'class' would have been a more proper phrase to use.

Training more giv Board Schools, after fou capable more.

10,107. You say that the great difficulty to contend with in establishing some system of supervision by means of continuation classes and a course of drill, etc., would be that of making the children physically fit to stand even a medium course of military training. I suppose if more physical training were given in our ordinary Board Schools, that objection would really disappear, because they would be gradually trained to bear a greater physical strain after school age?—Yes.

10,108. You think that the physical training which you recommend after they leave school should be entirely of a voluntary character?—I don't think that the country would stand compulsion in these matters.

Continua classes: pulsion necessary probably popular.

10,109. Take, for instance, the continuation evening schools; you don't think that they might be made compulsory after, say, fourteen years of age, or that the physical training part of their curriculum should be made compulsory?—I certainly think that is the only way you will make it a success, but whether it would be popular or not is another thing.

Boys occ after leav school.

10,110. Do you find in Edinburgh any large number of boys who have no occupation after they have left school?—Yes, there are a great number, especially of the lower order.

10,111. But leaving aside the slum children, and take the children of artisans?—There are a few, but not many.

10,112. It is an exception and does not obtain to any large extent?—That is so.

10,113. When a boy leaves school he has no difficulty in getting work?—He finds something to do.

10,114. Referring to Table No. 7, which you have given us, can you give any explanation why there should be an increase in 1898, a large increase in 1899, and a decrease in 1900, and again an increase in 1901?—There is no special reason for that.

10,115. There was one point that struck me in connection with Table 4, where you give the number of male and female apprehensions. In the total under breach of peace, the proportion as between male and female is not at all so bad as when you come to the next column, the total under drunkenness. Drunkenness among females seems to be abnormally large as compared with all the other tabulated crimes. Has it struck you at all that drunkenness among younger

females is increasing in Edinburgh?—There is no doubt it is increasing a little.

10,116. How do you account for that?—I suppose it is through the greater facilities for getting drunk. It is very difficult to account for it.

10,117. Would that not be obviated if there was some system of physical training for females after leaving school?—There can be no question that that would be equally good for girls as for boys.

10,118. It would have a moral advantage as well?—Naturally. It tends to make them behave themselves. Drill and all that kind of thing has that effect.

10,119. *By Mr Fergusson.*—I think one of your principal troubles in Edinburgh is that there is nowhere for boys over fourteen to go for any exercise?—There are a number of places, but the lads don't seem to take advantage of them.

10,120. Are there no gymnasia available?—No. There are the public parks, but there are no appliances for the boys there.

10,121. They are not made popular?—No.

10,122. Do you think that if there was a course of physical training made attractive, and more particularly gymnastics in connection with classes of that sort, they would be largely taken advantage of by boys over fourteen?—Yes, if there was some inducement in the way of competitions and prizes and so on.

10,123. Still there would be a considerable class who are loafers who would not take advantage of these facilities?—That is so.

10,124. Although you are not troubled with hooligans, still you have the ordinary street loafer?—Yes.

10,125. What can you do to deal with him?—It would require to be a very special inducement that you would need. Nothing short of compulsion would induce him.

10,126. Have you read an article in the *Nineteenth Century* by Sir Robert Anderson on the subject of hooligans?—No; I have not noticed it.

10,127. *By Mr Alston.*—You say that crime amongst juveniles in Edinburgh would steadily increase despite the most strenuous efforts of the police to prevent it. Have you not rather modified that statement during your examination?—I don't think that I have.

10,128. In reading that, we understood that it was exceedingly bad and was still increasing?—It is increasing, although we are giving it every attention. What I mean to convey is, that minor offences are increasing statistically, owing to increased vigilance on the part of the police. Crime, however, has increased in reality.

10,129. The same condition of things obtains in most towns in England?—Yes, according to statistics.

10,130. You indicated that perhaps the cause of it might be the more careful supervision of the police in taking up cases?—I don't think that the boys are any worse than they were before.

10,131. You think it is due to the action of the police?—Indirectly. It is the result of complaints being made.

10,132. The complaints would follow upon increased crime?—Yes.

10,133. Then crime is practically increasing?—Yes, if you put it that way.

10,134. Is there no institution or association in Edinburgh using any means to improve this state of things as regards the condition of the lower class juvenile population either in their food, clothing, housing, or manners?—Yes, there are several institutions who give clothing in the winter time. The Town Council are endeavouring to improve their houses, and they have done so to a certain extent.

10,135. These are causes of that state of things?—There is no doubt about that.

10,136. You would encourage games in the open parks. Would you have these free to all and without supervision?—I would have them free, but I would have supervision.

10,137. Would you have a caretaker on the spot?—Yes. There are five or six caretakers in the city already on these playgrounds, and there are some appliances for the amusement of the children.

10,138. You want these appliances in the public parks as well?—Yes.

10,139. And of sufficient number to provide for these children?—Yes. Take King's Park. In the Dumbiedykes district, which is near that park, there are more complaints to the police than in any other part of the town, and that even although it is so close to the park.

10,140. Which they might go into, but there is no attraction for them?—That is so.

10,141. How would that affect the lowest class who are engaged in street trading, which you say is the curse of that class?—I am afraid it would be very difficult to enforce that. It would require a compulsion to get at them. Street trading class: compulsion necessary.

10,142. It is really the artisan class that would be attracted there?—Yes.

10,143. Only compulsion would bring the street trading class?—That is so.

10,144. You cannot compel children to play?—No.

10,145. You said you were in Ramsgate. Can you compare Ramsgate with Edinburgh?—It is a smaller town, and in such smaller towns you don't have the slums that you have in the larger towns.

10,146. Then the condition of the children should be better in Bradford than in Edinburgh?—Yes.

10,147. Was crime increasing there also?—I cannot say that it was. When I said crime was increasing, I meant that it was increasing in the large cities and towns.

10,148. Particularly manufacturing cities, where there are a great number of working people living under bad conditions?—Yes.

10,149. *By Mr Shaw Stewart.*—You say in your paper that admirable as physical training is in all its forms, you cannot quite see how the youth of the slums of the city are to be reached, and that with any lasting beneficial results, unless the legislation with regard to the education of children is completely revised both in the mental and physical branches. Do you refer to any particular change, or do you mean continuation classes?—What I suggest is that the continuation classes should be made compulsory; otherwise you won't reach the children of the slums.

10,150. You are strongly in favour of continuation classes for mental and physical training with compulsory attendance?—Yes, but I question if it would be popular. Continuation classes: compulsory attendance necessary; good results expected; therefore popular.

10,151. With the parents or with the children?—Both. I don't mind the children so much as the parents. I would not take the children so much into consideration as regards popularity.

10,152. To make the classes a success, we should hope that they would be made popular to the children or they would not be so useful to the children themselves?—That is so.

10,153. You say there is a difficulty of reconciling the children with the prescribed form of recreation. Don't you think they might be interested in emulation?—I have no doubt they would when they got there and became interested.

10,154. As regards the popularity of compulsory attendance at continuation classes with the parents, if, after a short time, say two or three years, they found that children became better behaved and more useful citizens and easier to look after at home on account of these classes, then the popularity would naturally follow?—Yes.

10,155. You would look forward to that result as being likely to happen?—Yes, I would indeed.

10,156. So far as the popularity idea goes, I may take it from you that you think that would follow?—Yes, I think so.

10,157. *By Sir Henry Craik.*—You speak of the very critical age between twelve and fourteen years. Is that the period you are looking to chiefly in your evidence?—To my mind that is the crucial period of a child's life. Children twelve to fourteen: crucial period.

10,158. I observe in Table No. 3 that a very large proportion of those juveniles cautioned for minor offences belong to the age between twelve and fourteen?—Yes.

10,159. Even in Table 5 they about equal those between fourteen and eighteen?—There are not so many.

10,160. Of course from twelve to fourteen you have every possible remedy that you wish, as school attendance is compulsory to fourteen years of age?—What I say is that that is the age at which parents should pay special attention to the children.

10,161. But all the legislature can do in the way of requiring school attendance and providing schools and even physical instruction in these schools up to fourteen is given?—Yes. I refer specially to the parents in that part of my evidence.

Continuation classes: voluntary for artisans' children: compulsory for slum children.

10,162. I don't quite make out how in your view the children of this artisan class, called the middle class, differ in their conditions and in the remedies that you propose from the lower class children?—I don't want to propose a different remedy for the artisan class and for the lower class children. What I suggested was that the lower class would not voluntarily come to any kind of physical training or continuation classes.

10,163. Then you think that the artisan children would?—Yes, because the parents would impress upon them the advantage to be derived from attending these classes, whereas the riff-raff of the community, the parents of the slum child, would not take the trouble. As a rule they are drunk.

10,164. But the parent, from your account, does not take very much interest in his child; he rather goes the length of associating himself with the child in telling a lie?—I would not go so far as to say that he does not take an interest in his child, but he is anxious that his child should not be stigmatised by the police, and he does not scruple to tell a lie for that purpose.

10,165. You think, in the case of the lower class boy, the exercise he takes by himself in the street would unfit him for physical training?—I think he is physically unfit for training, having regard to his surroundings, food, etc. One can see what the little chap is like in going round the city. If you put him under physical training, then it would require to be under medical supervision.

10,166. *By Mr M'Crae.*—Would that apply even when he was attending school?—Yes. There are many of these little chaps who go to school who are no good for physical training, as it would simply upset them.

10,167. *By Sir Henry Craik.*—If you required them to go in for some systematic and well-considered system of physical training, would that not take them off the street?—If you compel them to go, of course it would; but what I suggest is that they will not attend unless you have some extraordinary inducements to offer them.

10,168. *By the Hon. Thomas Cochrane.*—In looking through your tables, I see that you have taken the period from 1st July of one year to 31st July of another year?—Yes, two years and a month.

10,169. That seems to me to be an unusual period. Is that the time during which you have been Chief Constable?—Practically.

10,170. I see the great majority of the juveniles who come under your notice are boys?—The greater number are.

10,171. A much greater number?—Yes.

10,172. Is that owing to the greater depravity of the males?—Yes, and probably the police are not so hard upon the girls.

Street trading: remedies proposed.

10,173. I see you are opposed to street trading for children?—Yes, unless it is properly regulated.

10,174. What would you have them do in their leisure time; there is a great deal of leisure for these boys of between twelve and fourteen years?—I would allow no boy of drunken parents to go out and sell papers or matches for his parents to drink. There are very few of those boys who go out to sell on the streets whose parents are thoroughly respectable, although there are some. I have called for reports, and the result is that the great majority of cases where the boys are engaged in street trading are cases of children of drunken parents.

10,175. Have you no local Act similar to what exists in Liverpool, Manchester and Bradford?—It does exist now, but it has not yet been put into force.

10,176. Will that give you power to license children for street trading?—Yes, the same as in Liverpool, Manchester and Bradford.

10,177. These boys and girls between twelve and fourteen in the hours of leisure can only play in the streets or remain at home, probably in a bad atmosphere?—They can find other means of employment.

10,178. What can they do?—They can find employment in the same way as the artisan children do if they look for it; but they don't look for it, because they get money much more easily this way, and more of it.

10,179. You would like them to be employed in some regulated way?—Yes.

10,180. You have no objection to their working?—No.

10,181. There was a Departmental Committee on the employment of children?—I have not seen their report.

10,182. In discussing this question as to occupation, they say that in their opinion the support of public opinion would be far more readily given if it could be shown that there are within the reach of the great mass of children means of both work and play which are more worthy and beneficial to them. That is to say, if there was any other occupation for these children, the parents would not object to a restriction of the street trading?—No respectable parents would, but there are very few of these in this town.

10,183. If it was shown to the parents that it was very beneficial to their children to take them off the streets and give them a system of physical training, do you think they would have any objection to their children being compelled to attend continuation classes?—I don't think they take sufficient interest in their children.

10,184. But the better class would?—Unquestionably they would.

10,185. They would rather have their children go to a continuation class than roam about the streets—Yes.

10,186. Those who object to it would be the class on whose objection you would not place much weight?—That is so.

Compuls desirable street ar

10,187. On the whole, your opinion is that some compulsory attendance might be enforced without any unpopularity?—It is certainly necessary in the case of the street arabs. I would not say that it would be necessary in the case of the children of artisans, because they have an interest in their children; and if you can make them believe in physical training and the benefit that it would be to their children, then they would like their children to go there.

10,188. The artisan would send his child voluntarily, and the other person might be compelled to send his child?—That would be class legislation, and would be a bad thing.

Industria schools commend

10,189. You know that the children who go to reformatories and industrial schools in the majority of cases turn out successfully?—There is no doubt about that. I have known many, many cases. That is what I say, that if the boy of the slums had an opportunity to do well he would do well. At present no one knows what becomes of him. If that boy is taken from his evil surroundings and properly trained, and sent to some place away from his old associates, then he will do well. In very few cases have I known them to go wrong. Once he goes back to his old associates that he has had in school, then he invariably goes wrong again.

10,190. Is it the discipline in the reformatory schools and the physical training that does him good?—Undoubtedly, and those with whom he associates. A boy imitates his associates whether they be good or bad.

10,191. If you can apply the same system to the street arabs, then you would expect beneficial results?—Yes, I believe many of these lads would do well if they only had an opportunity.

10,192. And something more profitable to do than

loaf about the streets?—Yes. At present they have no ambition to do anything.

10,193. Have you any opportunity of bringing before the authorities of Edinburgh your remarks regarding the want of appliances for games in the parks?—I have not made any report on the subject. The matter has not been discussed.

10,194. But as Chief Constable you are strongly in favour of greater opportunities for games in the parks?—Yes.

10,195. You are in favour of having gymnastic apparatus in some quiet corners of the parks?—Yes; and I think that competitions might be held and prizes given, which would induce the lads to go there.

10,196. *By Mr Alston.*—You said the parents, and no one else, cared about these children?—Very few people do care about them.

10,197. Is it the case that the parents object to their children being taken away because it prevents their earning money?—Sometimes they do, but at other times they are glad to see them brought up in a reformatory. If the child is at such an age that he can earn money, then they don't want him to be sent to a reformatory. You will always find that if the child is of such a tender age that it cannot earn money, then they are glad to get rid of it.

10,198. The parent to that extent does not care about the child, but the time arrives when he wants it?—Yes.

10,199. Would you approve of emigration for the children from reformatories?—Yes, if you get work for them.

10,200. *By Mr Fergusson.*—If that is so, is it not rather doubtful whether any system of continuation classes or training will do any good when we always keep them in the same place where their evil surroundings are?—At present they are continually in bad surroundings day and night, but if you take them to these continuation classes, they would for a few hours be in good surroundings, and it is reasonable to assume that that would have a good effect on them. At present they come across nothing else but cursing, swearing, and debauchery from morning till night.

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10,201. *By Mr Shaw Stewart.*—In answer to Mr Cochrane you said that if the slum boy was compelled to attend, and the respectable artisan's boy was not, you would be introducing class legislation?—That is so.

Continuation classes: compulsory attendance for artisan and slum boys beneficial.

10,202. Setting aside the slum boy altogether for the moment, do you think it would be a good thing for the son of the artisan to be obliged to attend continuation schools two or three times a week if it was looked upon as part of the school curriculum going on from fourteen to eighteen? You don't consider that it would be a hardship if he had to attend for an hour two or three times a week?—At present the boy has to study for two or three hours at home. You could not expect him to attend two or three hours a week at evening classes and do the same amount of study.

10,203. But I mean after he has departed from school, and is between fourteen and eighteen. Would it be a hardship to the artisan's boy to be obliged to attend continuation evening classes after school age?—I don't see why it should be a hardship if the boy left off work at six o'clock.

10,204. If compulsory attendance were the same for the artisan and the slum boys, there would be no question of class legislation?—No.

10,205. It would be a benefit both to the artisan boy and the street boy?—There is no doubt about that.

The witness withdrew.

Adjourned.

TWENTY-SECOND DAY.

Tuesday, 16th September 1902.

At the Museum of Science and Art, Edinburgh.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.	Mr J. C. ALSTON.
Sir THOMAS GLEN COATS, Bart.	Mr J. B. FERGUSSON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr R. MILNE MURRAY, M.B., C.M., examined.

Mr Milne Murray, M.B., C.M.
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10,206. *By Professor Ogston.*—Will you give the Commission your qualifications?—I am M.A. of St Andrews University, M.B., C.M. of Edinburgh, Fellow of the Royal College of Physicians, Edinburgh, Physician to the Maternity Hospital, Edinburgh, and Assistant Gynæcologist to the Royal Infirmary, Edinburgh. I am also Lecturer on Midwifery and Diseases of Women in the Edinburgh School of Medicine.

10,207. For how many years have you had experience as a specialist?—Fifteen years.

10,208. Will you kindly read over the statement that you have prepared?—

I venture to ask the attention of the Commissioners to the following considerations:—

Training: physiological differences between boys and girls up to ages eleve or twelve.

1. Any rational system of physical training must take into account the physiological differences between the two sexes.

2 These physiological differences may be said to be at a minimum up to the age of 11 or 12 years.

3. Up to this time the difference may be said to consist, mainly, in a greater degree of muscular and nervous energy on the part of boys as compared with girls. The power of endurance is thus always greater in the former than in the latter.

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4. Accordingly, most forms of systematised physical training suitable for boys may be adapted to girls under 11 or 12 years of age, if due allowance be made for the fact that the physical capacity of girls is less than that of boys.

Girls: must be separately trained.

5. It also follows that the physical training of the sexes must be carried out separately, in order that any undue emulation and consequent danger of overstrain on the part of girls may be avoided.

Girls after twelve.

6. From the age of 12, when the functional activity of the sexual organs in girls becomes established, care will have to be exercised in the regulation and supervision of all organised physical training.

Girls after puberty: great care necessary.

7. From the time of the establishment of the menstrual process, a girl, even in perfect health, passes each month through a time during which the bodily energy, as shown by the powers of endurance and resistance, is lowered.

8. During this period, varying from three to six days in each month, she is peculiarly liable to the risks of overstrain, the occurrence of which may not only injuriously affect her sexual organs, functionally and organically, but may seriously impair her general health.

9. There is no doubt that during this period a girl is, in most cases, unfit for an amount of physical and mental effort which at other times she is quite competent to accomplish, and the systematic attempt to do this will in many cases lead to disaster.

10. Moreover, it is the case that in many young girls the menstrual process is for two or three years after its onset very irregular as to occurrence and duration.

11. Accordingly, in organising any scheme of physical training for girls, it will be necessary, if grave danger to their health is to be avoided, to take into account this recurring disability, and in view of this to regulate their exercises so as to avoid any danger of undue strain, or, as will be necessary in some cases, to forbid them entirely at this time.

Aids to proper supervision.

12. In order that proper supervision and regulation may be possible, I venture to think that two things are of primary importance, viz.—

1. An intelligent comprehension of the physiological processes referred to, and of their direct effects on the bodily functions, on the part of those who may be responsible for the physical training of girls.
2. An intelligent and frank co-operation between the parents and guardians of girls on the one hand, and the responsible heads of schools on the other.

13. By these means it should be possible to regulate and adjust the system of physical training in such a way as to make allowance for the temporary disability or idiosyncrasy of individual girls.

14. It is obvious that while certain of the less exacting exercises may be practised even during menstruation by healthy girls, there are others which are entirely unsuitable for all at this time. Among these I mention swimming, bicycle riding, and gymnastic exercises which put any special strain on the muscular and vascular apparatus of the pelvis, such as trapeze and horizontal bar exercises.

Faults: indifference and ignorance.

I have ventured to lay this statement before the Commissioners, because, as the result of considerable experience in the medical treatment of school-girls, I have been struck, on the one hand, with the indifference of many parents as well as the responsible heads of schools to the grave physiological bearings of the sexual functions in girls, and on the other, with the disastrous influence of this indifference on the permanent health of many school-girls.

Training: separate for the sexes.

10,209. You think that physical training of the sexes must be carried out separately?—Yes, on account of this essential difference between the two, that if a boy and girl are trained in the same exercises, the boy, in the great majority of cases, will succeed in doing the thing more quickly and better than the girl, and the girl is apt to overstrain herself, whereas, if the girls worked alone, this emulation is done away with.

Teachers: desirable to have women.

10,210. Would you give separate teachers to the two classes?—I think so. I don't think that in these physical exercises a man, unless very specially trained, is able to properly conduct these classes: I think that it is almost essential to have an intelligent woman.

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10,211. You can realise that there will be some difficulty in regard to that in many of the poorer and more remote schools?—Yes.

10,212. Still, in the face of that, you think that separate training, as far as possible, is extremely desirable?—Yes, most assuredly. It is largely a question of convenience in respect to the cases you refer to and in remote schools; but, in the great majority of schools, I take it that there is a female teacher as well as a male teacher who would be able to carry it out.

10,213. If it was found to be unavoidable to mix them in the smaller schools, you think that by judicious advice and co-operation with those who know better it might be practicable?—Yes, I think it might.

Suggestio precautio

10,214. You suggest that care would have to be exercised in the regulation and supervision of all organised physical training. Can you give us any suggestions as to the lines on which that care ought to be exercised?—I was referring to the time after the girls have entered the age of puberty. From that time onwards I think it would be quite necessary for the teacher to know whether a particular girl under observation was fit on account of her condition to undergo any exercise at all. The girls will require, so far as I see, to be classified as to whether they are competent to undergo the exercises for the time being or not. That is the first point. In the second place, I think that those girls who are perfectly well so far as they can be at this particular time might quite safely be exercised in certain parts of physical training, avoiding such exercises as I have mentioned—the horizontal bar, jumping, or anything of that sort.

Clothing.

10,215. Can you give us any suggestions with regard to clothing? Is it necessary that there should be special clothing for girls who are being trained in physical exercises?—I think that they should be dressed in loose clothing, divested of their stays, for example, but I don't think it is necessary to have special clothing unless for those swinging exercises.

10,216. You think, therefore, that a certain amount of physical training suitable for girls, even at the age of puberty, could be carried out in the poorer schools without special clothing?—Yes.

10,217. The question of expense, there, is very material?—Yes.

Medical supervisio desirable: medical of of health competent

10,218. In paragraph 11 you say that in organising any scheme of physical training for girls, if danger to their health is to be avoided, account must be taken of the recurring disability to which they are liable. What would you suggest? Can you suggest any practical way of dealing with that, any means in which those supervising them might adopt?—I should be inclined, as a general principle in connection with this point, to put all the girls aside while in this condition and to keep them aside for the time being. I am convinced that the danger of overstraining at this time is very great, and where girls have been submitted to a training of this sort, I have seen very serious accidents occurring over and over again. I have suggested how the thing should be done. There is a great difficulty in getting the parents of the girls to inform the teacher or in the teacher discovering what really should be done when this particular function is occurring. When a girl turns unwell, then you could keep her from the exercise, but she does not tell when she is unwell. A free communication between the girl and the teacher seems to me to be essential.

10,219. Do you think it would be of material assistance in managing that difficulty if proper medical inspection and supervision and the co-operation of a School Board medical man of sufficient ability were secured in connection with Board Schools?—I should think that that would help very materially.

10,220. Would you consider it essential?—I would not go the length of saying that it was absolutely essential, because if you could disseminate a certain amount of rational information among the parents,

either by printed communication or communication by some intelligent person, as regards the importance of the teacher knowing of this condition, then they would look on it as an essential part of their duty.

10,221. I suppose, however, the weight of any representation to them would largely rest on its being based on medical testimony?—Yes, you would require to employ medical men to make the communication to the parents, and, as it were, to start their education.

10,222. That would require to be done by a special medical officer. It could not be done by the medical officer of health?—I think he is quite competent to do so.

10,223. In your evidence you have specified the exercises that are dangerous. Can you offer any suggestions regarding the exercises that are specially suitable for girls, not necessarily at any particular period, but generally speaking: can you suggest what exercises should be introduced into schools for girls?—I don't profess to be an expert in gymnastic training, but I should say that exercises which tend to develop the respiratory organs are exceedingly desirable, such as dumb-bell exercises, not only in the erect position, but in various positions, and some forms of Swedish gymnastics. I think that these are more important for girls than violent exercises where the body is swung about, because they avoid the very risks that I deprecate.

10,224. Do you think that dumb-bells and Swedish exercise might be practised even when a girl was unwell?—Dumb-bells might be if the girl was perfectly well otherwise.

10,225. Could you give us the name of any diseases or disabilities that have occurred in your experience from physical exercise in girls?—Of course my experience has been more associated with the mischief produced by persistent over-study during this time, but at the same time I can speak to the effect of bicycling, which is a very favourite amusement among girls. I am perfectly certain that ill-health has been brought about through that, over and over again.

10,226. Would you name that?—Menorrhagia, resulting in profound anæmia and debility.

10,227. Any displacements?—Normal displacements aggravated, uterine displacements, and chronic ovaritis.

10,228. All these you have seen and treated?—Yes, as a result of overstraining on the bicycle. I am speaking of the bicycle alone just now.

10,229. Appendicitis?—No, I have never seen that.

10,230. *By Mr Ferguson.*—I don't understand you to say that mild exercise such as arm exercise ought to be entirely prohibited at this time?—No, not in girls who are otherwise quite well.

10,231. I am quite aware of the importance of what you have been telling us, but I thought it was so universally known and acted on that you would hardly find a school that professed to be in any way well conducted where these points were not carefully attended to?—That is quite the exception in my experience. Of recent years there are some secondary schools that have made that an essential part of their study, but a very large proportion of the schools in Edinburgh ignore that entirely.

10,232. *By Sir Henry Craik.*—Have you in your view secondary schools chiefly, or have you any experience of elementary schools?—I am speaking specially of girls over twelve or thereabouts, the great majority of whom are in secondary schools. In most elementary schools they leave before that time.

10,233. Now they go on longer?—Yes.

10,234. At such times would girls be disposed not to play games or take other exercise?—That depends on the peculiarity of the girls. Some girls will exercise at that time almost more vigorously than at other times.

10,235. Bicycling, of course, is not a school exercise; it is one that they do for themselves, and which they are apt to overdo. Physical training in a regularly systematised form is important as restraining them from doing so?—Yes.

10,236. You don't advocate the absence of any systematic training, but you think it should be carefully regulated?—Yes. I should like to say that many girls at this time, feeling the sensation of unwellness, generally resort to physical exercise as a means of throwing it off.

10,237. Instead of dispensing with exercise to meet this danger, you think there ought to be a regulated and carefully conducted system?—Yes, that would be judicious.

10,238. You also said that you found many instances of intellectual overstraining?—I have had far more experience of that.

10,239. In order to relieve that strain it would be important to have a system of systematised physical training?—Yes, presuming that it is judiciously carried out. It would require to be done with very great skill.

10,240. You are in favour of this being given?—Yes, in the perfectly healthy.

Doctors: male and female.

10,241. *By Sir Thomas Glen Coats.*—On account of delicacy in those matters and the difficulty of a doctor obtaining the necessary information, would you advocate lady doctors to be appointed in such places in large towns?—If you could get the information better by lady doctors, then by all means appoint them, but my experience is that women are as frank to men as to women in matters of that sort. I have had considerable experience of women who have passed through the hands of lady doctors. I don't think you will get better information through women than through men.

10,242. Will they not speak more readily to women than to men?—That may be so. What you want here is communication between the parents and the teacher.

10,243. And also the pupil?—If the parent took the responsibility of seeing that her daughter was in this condition, it would not be necessary to have the pupil. The pupil herself would be very apt to be reticent in the matter. Of course have lady doctors by all means if necessary.

10,244. *By the Hon. Thomas Cochrane.*—Would this question arise very much in Board Schools at the ordinary school age?—In a great many cases the process begins much earlier than in a normal case. A great many girls begin at eleven, and they would require more attention than the others, because they are precocious and apt to go wrong. When you have girls from ten upwards you require to consider the question carefully.

10,245. The ordinary system of physical training would not do them much harm?—I would not go the length of saying that. I think that these young girls, especially girls beginning early, are peculiarly liable to be hurt—they are extremely fragile.

Suggestion: co-operation between parent and teacher.

10,246. It would be rather difficult to ascertain their condition without the parents telling the teacher about them?—That is the whole point. I think you must get co-operation between the teacher and the parents.

10,247. It would be difficult to have a medical officer going round each parent?—I don't think that the medical officer need do that. I think his duty should rather be to instruct the parents as to what they should do.

10,248. And then they should confide to the female teacher at the school that their child would be probably unfit for the exercise. That would be the practical way?—Yes.

10,249. *By the Chairman.*—That is all very well, but you cannot deny the fact that for several years past physical training has been given to boy and girl alike in schools. I would like to know what you could say against that?—I cannot speak against that.

10,250. Can you tell us what effect that has had during these last few years?—I cannot answer that at all.

Physical exercises for boys and girls; no bad effects observed; but insufficient in quality to effect much good or harm.

10,251. You don't know, and if you are not in a position to say whether it has had a bad effect, then I may almost take it that it has not been very bad. You see this is not a new matter. There has been a considerable amount of physical exercise given to girls as well as boys for several years past?—Yes.

10,252. Can you say that considerable damage has been done?—I have no reason to think that at all. I

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don't think that the time has sufficiently elapsed to enable us to judge of the result of physical drill in schools. The amount of physical drill is limited to a small number of exercises, no more than you would give in a systematised scheme of physical training such as they have in Germany or Austria.

10,253. What makes you think that? Have you seen it done in schools?—Yes, I have seen it in elementary schools.

10,254. Did what you see strike you as being far from sufficient?—It seemed to me excellent training so far as it went, but not sufficient to develop to any large extent the physical side of the constitution of a boy or girl.

10,255. Have you ever seen physical drill in any institution other than a Board School?—Yes, I have seen it in one or two private schools in London.

10,256. Carried out to a large extent?—Yes, much more elaborately.

10,257. Without any precautions?—I am speaking of girls' schools, where the precautions were highly developed indeed.

Girls' illness: suggested communication between parent and teacher each month.

10,258. Are you able to tell us at all whether a girl when she is in this state of health is very prone to confess it, as it were?—Girls vary very much; some girls are quite frank, while other girls are exceedingly reticent.

10,259. A little girl of eleven or twelve may not know what it is?—Unfortunately they don't know at first, but they soon discover, because they may be very ill indeed.

10,260. It does not follow that the teacher is aware without being told?—No, she may not be able to tell in many cases.

10,261. That seems to me to be the practical difficulty of the whole thing, unless you have a medical examination, which is hardly feasible?—I should say that the parent is in a position to communicate that fact. If a mother knows or believes that this exercise at that time is a source of risk to her child, she may communicate it to the teacher by a note saying that the child is not fit for the exercise.

10,262. Should she write that each month?—Certainly. You might have a set of forms for that matter which the parents could have. A mere statement is quite sufficient. I think it should be done once a month; it would be no burden on a mother even although she had half-a-dozen children.

10,263. Do you imagine that that precaution is absolutely neglected at the present time, that the girls are not set apart on certain days and told not to do anything?—I think that that is quite an exception.

10,264. They all work alike?—Yes.

10,265. And that is wrong?—Yes.

10,266. A great many girls would, of course, be put aside?—Yes, that is the difficulty.

Physical exercise most important before and after fourteen if carried out with physiological knowledge.

10,267. You join, of course, in saying that physical exercise is of utmost importance?—Yes, and it is highly desirable in the schools which get the least of it just now.

10,268. It is desirable over the age of fourteen as well as under it?—Yes, always assuming that it is carried out with reasonable physiological knowledge.

Deterioration among young women: upper classes greatly improved; working classes deteriorating: diminution in birth-rate in country: causes.

10,269. Have you any information to give as to the deterioration or otherwise of young women at the present day. Are they more anæmic than they used to be?—No. In the upper classes they have improved very much, because those are the girls who later on make up for what they have wanted very much at school by golf and tennis and so on, whereas the girls of the working class are in a very different position. I think that this suggestion of developing physical training is most important, because when they enter shops their exercise is limited to a run on the bicycle when they can afford to buy one. We are running a considerable risk of deterioration of our race, and complicating the process of parturition in the working classes, by the fact that these girls get married in a totally unfit condition, whereas, on the other hand, education is being pressed and the skull and head are increasing in size. They are getting bigger heads and bigger brains, and there is greater difficulty in producing children.

10,270. That is your deliberate opinion?—Yes. There is a diminution in the total birth rate in this country. There are various things to account for it, one of them being that a great many working women become permanently damaged by the first, second or third labour, and are incapable of bearing more children.

10,271. That would be obviated by more care in the physical training of the young?—I hope so.

10,272. You only think so?—Yes, but it is the most rational view to take of the disabilities.

10,273. You would attach importance to proper nourishment when young?—Yes, you cannot exercise a child without nourishing it properly.

10,274. *By Mr Fergusson.*—The very dangerous positions that you speak of only arise in their worst form in the case of applied gymnastics with apparatus. If you confine yourself to the Swedish exercises for girls, you can keep them on during this time and there is not so much risk of any harm being done?—There is much less risk.

10,275. So that with the Swedish exercises the serious risk will be overcome?—It will be very much minimised.

Enlarged heads and relatively lessened size of pelvis: general impression: statistics.

10,276. *By Professor Ogston.*—Can you assure us that what you have stated as to the enlarged size of the head and the relative lessened size of the pelvis, and the consequent difficulties in parturition, are founded on data which make that absolutely certain?—No, it is rather a general impression that has been gathered. I don't think that there are any statistics to make it sufficiently accurate.

The witness withdrew.

Mr G. Mackay.

Mr George Mackay, examined.

10,277. *By the Chairman.*—You are teacher at Skerries School, Lerwick, Shetland?—Yes.

I am a certificated teacher, and my age is fifty-five years. I have been engaged in teaching continuously for thirty-five years. I have had charge of the Skerries School for the past eight years. Previous to coming to Skerries I taught in the Highlands of Scotland and in Orkney.

The Skerries School is a church school, and in addition to my duties as teacher, I act as lay missionary for the district. The isolated situation of the people renders this arrangement necessary, and it is an arrangement that has hitherto worked satisfactorily. But in all other respects the school is a fair sample of a country school in Shetland.

The *quoad sacra* parish of Whalsay, of which Skerries forms a part, contains about 1100 of a population, and is one of the very few rural parishes which shows an increase of population during the last decade. With very few exceptions the people are fishermen, or, to be more exact, crofter fishermen. The Orcadian is a crofter with a boat, the Shetlander a fisherman with a croft. The Highlander and the Orcadian are seamen from necessity; the Shetlander is a seaman from choice.

Boys in Shetland: growth and health.

From four to fourteen or fifteen constitutes the school age. When a boy leaves school he generally finds employment on one of the large fishing boats as a rope coiler, and at this work he remains for two or three years, when he attains the status of 'hand,' and gets full pay. Shetland boys grow remarkably fast, and at seventeen and eighteen years of age are, as a rule, fine stalwart fellows. The general health of the community is good. Rheumatism and dyspepsia in its

various forms are not uncommon, but they do not appear to shorten life. I have acted as registrar for the Skerries district for the past eight years, and the average age of the deaths I registered during that period was slightly over seventy years.

I would not go so far as to say that scientific physical training is given in all Shetland schools, but training of some sort is given in most of them. In Skerries about two hours a week are devoted to physical exercises, mainly dumb-bells and military drill. But Shetland boys row about a great deal in their small boats, and in this way get much physical exercise. At eighteen or nineteen years of age most of our young men join the Royal Naval Reserve, and undergo a month's training annually at Lerwick. In this district of Skerries we have about forty men, manning six large fishing boats, a large proportion of Naval Reserve men, and from a physical standpoint a finer body of men could not be met with anywhere.

I think physical training should be made compulsory, and some of the money at present lavishly spent on bursaries might be employed by County Councils in developing the physical resources of the young. An expert in physical training might superintend all the schools in a county, acting as officer, with the teachers as drill instructors under him. The playgrounds at all country schools should be enlarged. On no playground that I know of can *games* be played. Of course children romp about and play, however limited the space at their disposal; but cricket, hockey or shinty, football, and the old Highland game of 'War' cannot possibly be played on the limited area at present used as a playground. In this respect the present compares very unfavourably with the past, the old parish and church schools having fine spaces at their disposal as playgrounds.

I think a periodical examination of a school by a doctor would do good and strengthen the hands of the teacher. Apart from his professional skill, a doctor's visit would be an advantage, for the more educated people come in contact with a school the better. A country teacher works under disadvantages sometimes, as very few take much interest in his work.

The problem of the physical training and development of the rising generation is a complex one, and is interwoven with other problems that await solution. The depopulation of the rural districts has a bearing on it. The physically fit, the energetic, and the enterprising of both sexes leave us to push their way in the large cities or the colonies, and we are left with the second-rates mentally and physically. This is not quite so true of Shetland as it is of Orkney and the districts of Scotland which have come under my own observation. My experience as a teacher is that the level of intelligence and physical force is lower now in the North of Scotland than it was thirty years ago. I shall not, however, enlarge on this aspect of the question, as I shall have an opportunity of stating my views before the Commission.

Specimen of Scheme of Physical Training for County.—1. Superintendent of Physical Education (appointed by the County Council), whose duties would consist of visiting the schools, giving specimen lessons, assisting teachers with his advice, and generally supervising the work. His salary to be provided partly by grant from the Government and partly by contributions from School Boards.

2. In parishes where a volunteer company exists, the drill instructor would on Saturdays instruct all the boys of the parish in military drill.

3. The medical officer of the parish would visit the school periodically and report on the health of the children. In cases where a poor physique was the result of unsanitary and unhealthy conditions of home life, the sanitary inspector's services to be called in and the case reported to the authorities.

4. Children to be classified according to age, and when a certain standard of proficiency in physical training is attained, be entitled to wear a sash, badge or cap, with further right to compete in the county athletic sports and games which would be established for children. The superintendent to grant the necessary certificate entitling the holder to wear the ribbon or badge, or whatever else might be considered appropriate. Perhaps a coloured 'jersey' would be as good as anything.

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5. At the outside, the total cost of setting on foot and carrying on this scheme should not be more than £300 per annum, and that is not a large sum *for a county*. It has the advantage of making use of the machinery already in existence, and there cannot be any solid objection to it on the score of its expense.

6. Physical training and military drill to be compulsory, except in cases where the medical officer exempts the boy on the ground of ill-health.

7. After the age of eighteen, physical training and military drill *may* be given or continued, but they shall not be made compulsory. At eighteen a boy can enter the Naval Reserve, or he may become a volunteer.

8. School Boards *must* provide suitable spaces for games, not necessarily at the school, but not too far away, if spaces available. Size of playground to be not less than 1½ acres.

10,278. What system of physical training is practised by you?—I have just dumb-bells. As I cannot teach them military drill myself, I get one of the naval reserve men to do it. System: based on Cruden.

10,279. Who taught you how to teach dumb-bell exercises?—I learned it out of a text-book.

10,280. What was the text-book?—If I recollect aright, I think it was Cruden's. I am sorry to say I have forgotten.

10,281. You got it out of some book, at any rate?—Yes.

10,282. Was that some time ago?—I have been at it ever since physical exercises were required by the Education Department.

10,283. You did not use physical exercise before?—No, but we played a great deal of games in my youth, which was equivalent.

10,284. When the inspector comes and visits you he sees the physical exercise so far as you teach it?—Yes, and the military drill.

10,285. Where is the military drill performed?—In the playground.

10,286. Is there room for it?—Yes. We are not confined in this school at Skerries. It is a church and a school, and there is attached to it a piece of land. It is not a School Board school. The proprietor has been very liberal, and granted us about two acres of ground.

10,287. Have you much acquaintance with Board Schools?—Yes, I know them well.

10,288. Can you tell us whether they do the same sort of physical drill?—Yes, they do just the same.

10,289. Not more elaborate?—No. The teachers who are my age or slightly under it have just learned it out of a book in order to satisfy the requirements of the Department, but they would be glad to welcome any practical instruction, and that is why I recommend a drill sergeant. Older teachers: recommend expert.

10,290. What happens in the case of the younger teachers?—I suppose they are trained. They have a better chance of being trained than we of the older school.

10,291. Do they go away to get trained?—When there is a volunteer company at hand then they become Volunteers, and that gives them a certain amount of training, but I don't know that there are any facilities for receiving instruction. We have just to take it out of the book the best way that we can.

10,292. Do the children like it?—Yes, immensely. Training very popular among the children.

10,293. It is popular?—Yes, it is the most popular lesson of the day.

10,294. Do you teach it to boys and girls alike?—Yes.

10,295. How long do you keep your boys and girls at school; do you keep the boys any longer at school than the girls?—No, they remain much about the same.

10,296. At what age is it that they leave?—About fourteen.

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10,297. Have you any children in your school over that age?—No, I don't have any. The boys all leave to go to the fishing boats and to earn money.

Physical exercise after fourteen: boys get sufficient in their employment. Remarkable development among Shetland boys: due to healthy occupation.

10,298. *By Sir Thomas Glen Coats.*—I see from your evidence that the children after they leave school get employment on board these fishing boats, and when they are old enough they join the Naval Reserve. After they leave school, would you consider it necessary to continue physical exercise, or do they get enough in their employment?—They get enough, judging from the result. My boys who leave at fourteen get on to boats as rope coilers. They are not very big boys, but in a few years they develop into huge, strong men, so that that shows that the physical exercise agrees with them.

10,299. Are the children at school age strong?—Yes, fairly, but they don't appear to be remarkably strong in school. It is a curious thing that they develop into very strong men.

10,300. In many parts of the West Highlands the children appear sickly at school age, and they afterwards develop into strong men?—That is so. I have a case of a boy in Skerries who I thought was so weakly that we could do nothing to help him, but he joined a big fishing boat as rope coiler. I thought that he would not have lasted a week, but instead of that he turned out an enormously strong fellow, and a perfect transformation took place. I notice that our boys shoot into men sooner than any other boys that I have seen. All Shetland boys do that. They don't appear to be very strong as school boys, but they go to the fishing boats and become men in a very short time.

Girls: develop fairly fast but age quickly.

10,301. Do the girls develop in the same way?—Not quite so fast. They develop fairly fast, but they age sooner than other Scotch people. The conditions of life are harder on the women than on the men. The men are all fishermen, and the work in the crofts therefore falls on the women. In that way they get older sooner than the men.

10,302. Do you consider that children benefit by physical training when at school?—I think they do. It is a beginning. It is not so apparent in the school, but there is no doubt that it produces good results afterwards. Of course it is not apparent day by day.

10,303. Do they get sufficient nourishment as children?—Quite sufficient.

Level of intelligence and physique in North of Scotland lower now than formerly: due to emigration of the best.

10,304. *By Sir Henry Craik.*—I observe that although you find boys in your own experience growing into very strong men, you say that the level of intelligence and physique is lower than it was thirty years ago?—Yes, I think it is worse in the north of Scotland.

10,305. You are not speaking of Shetland there?—I don't know Shetland so well as I know the Highlands.

10,306. To what do you attribute that?—I think it is due to the continued exodus out of the country, the strong and energetic and plucky people leaving us, with the effect that only the second-rate population remain. That may have something to do with it, but I cannot tell. My experience is that it takes twice as much labour now to work a boy into a state of intelligence that will satisfy an inspector of schools than it did at one time. That possibly may be due to my getting older, but I have heard other teachers say the same thing. I heard Mr Muir, the Inspector of Schools, say the same thing. I attribute it partly to the continued decrease in the population, and the taking away of the smart people from us.

10,307. Education would lead to emigration?—Yes.

Remedy: development of the Lovat Scouts.

10,308. You cannot suggest any remedies?—Yes, I have a remedy, and that is to develop the Lovat Scouts idea. That would be the salvation of the north of Scotland, because it would arrest the exodus of the population. I know the Highland crofter very well. He could be trained to be a military man. The Naval Reserve is of immense benefit; there they earn from £6 to £10. The Highland crofter does not earn that, and consequently he has to go away. If the crofter in the Highlands was a scout or a soldier, so that military training could be had, then he would not leave his home.

10,309. How would the soldiering help him to live?—The Naval Reserve man gets £6 and so much per week. Now, if he earned £10, that would be of immense benefit to the family; it would be just an income, and he would be an independent man, along with what he made from the land. That is the secret of the depopulation—there is nothing to do, the croft is not sufficiently large, and they leave.

10,310. *By the Hon. Thomas Cochrane.*—The Militia is open to the crofter, and he would get his £4 a year in addition to his other bounties, and that would come to very much the same?—It might; but the Militia has never been very popular. The scouts have been immensely popular, but why that should be I cannot tell. It may be the pony and the new idea of the war. If an addition were wanted for the scouts, I am sure that thousands could be had.

Mounted Militia to be outcome of training.

10,311. *By Sir Henry Craik.*—You advocate the maintenance of a mounted Militia in the Highlands?—Yes; it would be the outcome of the physical training.

10,312. *By Mr Shaw Stewart.*—In one part of your evidence you say that Shetland boys, besides getting their physical training in school, row about a great deal in their small boats and get a lot of exercise; and then you say that physical exercise should be made compulsory. Is that because there are some boys in Shetland who do not get enough physical exercise, or because you would like to see the same training all over the country?—I would like to see every boy trained. It makes an immense difference to a boy. It helps a teacher in the day school if an outsider comes and trains the boys. I receive great benefit from the Naval Reserve man. The boy gets the idea that someone else is drilling him other than his enemy—the schoolmaster—and he gets fond of it. It is a new thing, and is out of the ordinary routine of school work.

Training should be universal.

10,313. So far as Shetland is concerned, almost enough physical training is attained at the present time?—Yes, they get a lot of physical training.

10,314. Every boy gets his share?—Yes; the only difference with an additional instructor or superintendent would be that the training would be organised, and they would see that it was put right.

10,315. Would the furnishing of the playgrounds with masts and yards and ropes be of advantage for preparing boys for life at sea?—They have the preparation lying in the bay just at their doors.

10,316. It is not necessary to have any special teaching?—No, because every boy in Shetland knows every rope and spar at a very early age. He is a practised sailor from his youth, and can do marvellous things in a boat.

Compulsory to eighteen.

10,317. *By Mr Fergusson*—You say in the first paragraph that you think physical training should be made compulsory. Up to what age should it be made compulsory?—Up to about eighteen, I should think.

10,318. How would you propose to continue it after the school age?—In Shetland the Naval Reserve age, I think, is eighteen, although I am not quite certain about that, and I think that they should take boys on at fourteen or fifteen.

Naval service advocated.

10,319. You think they should take your boys as they come from school?—Yes.

10,320. Between fourteen and eighteen what sort of physical training would you suggest?—Military drill. They get plenty physical exercise on their boats.

Playgrounds inadequate.

10,321. You say that no games can be played in the playgrounds. Is that your experience in the north of Scotland?—Yes. We never can play a game of shinty or football.

10,322. Is that the newer schools that you are talking of?—Yes.

10,323. Do you think that quarter of an acre is insufficient?—Yes, you could not play shinty or football or any good game on it.

Teacher: experience desired.

10,324. I understand you rather favour a special teacher for physical training instead of the schoolmaster teaching?—Yes.

10,325. Is it not your experience that the schoolmaster has more control over his boys than a stranger?—That is so, but schoolmasters won't attach as much importance to physical training as special instructors would.

10,326. You advocate that on account of the teacher and not on account of the pupils. You think that the expert will be able to teach better than the ordinary teacher?—Yes.

10,327. If the schoolmaster was sufficiently instructed himself, you would still prefer the expert?—I don't see any very great difference. It would do very well in town schools, but it is a lonely life in a country school, and we would be glad to see other men coming and telling us the new things.

10,328. You say that children should be classified according to age. In doing that you might have to take the children out of their classes and break up the whole work of the school?—That is not what I mean. I mean that if a boy of nine was expected to reach a special development, there should be a standard, and the expert would be able to say what the boy could do, and he could give some award.

10,329. You don't mean classifying them according to age before putting them through their exercises?—No, that would be impracticable.

10,330. Have you ever found the want of medical inspection of your children? Would you like a doctor now and again to inspect them?—Yes, I think I would.

10,331. Are your children well fed?—Very well fed indeed.

10,332. How much time out of your school day would you like to devote to physical exercise and drill?—About half an hour a day. On wet days they would not be able to go to the playground in a country place.

10,333. If that is so, would you favour covered playgrounds, roofed over, but without sides?—Yes, but in country places the expense would stand in the way.

10,334. An iron roof without stone walls is not very expensive?—I think it would be very nice.

10,335. You are a good deal troubled by not being able to work outside?—When boys get a ball and kick it over land belonging to some other people, they make a row, and that has been a perfect nuisance. It is very difficult to keep the boys from wandering about if the playground is too small, and then the people on whose land they wander make things hot for you.

10,336. *By Professor Oyston.*—I suppose your school is one of the most remote of the whole of the Scottish schools?—Yes, it is remote in the sense that it is difficult to get there or away from it. It is only twelve miles from the nearest telegraphic station, but then twelve miles in a stormy firth make it very remote.

10,337. Is it as great a contrast with an Edinburgh school as there exists in Scotland?—Yes, in some respects it is.

10,338. Do you know of any school in Scotland that is more of a contrast, and more remote than your own school?—No, I could not imagine one.

10,339. Where about are the Skerries situated?—About twenty-four miles north-east of Lerwick.

10,340. How far are they from the nearest land?—The nearest land is seven miles distant, and the nearest telegraphic station is twelve miles away.

10,341. Are the Skerries a group?—Yes, an archipelago.

10,342. How many of the islands are inhabited?—Three.

10,343. Do those three furnish the pupils to your school?—Yes.

10,344. Are they so situated that the pupils can regularly attend?—Yes. The Congested Districts Board gave us a bridge to connect the two inhabited islands, and that has been an immense benefit. They can all attend, and they do attend very regularly.

10,345. How many acres are there in the Skerries?—I should say that the largest island is about two miles long and about half a mile broad. The other islands will be less.

10,346. Three or four square miles will be the area of what supplies your school?—Yes.

10,347. What amount of that is arable?—A very small proportion.

10,348. One half or a quarter, a tenth or a hundredth?—About a hundredth. Skerries simply means rocks. There is just a covering of soil on the rock. The arable part is of very little consequence so far as the people's living is concerned.

10,349. What will be the size of the biggest field?—About two acres.

10,350. So your playground is as large a piece of flat ground as the islands contain?—Yes.

10,351. Is the climate very bad in the Skerries?—It is very wet. Climate.

10,352. Will every second day be wet?—I think more. It is a strange thing when it is not wet, in winter especially.

10,353. So the difficulties of children attending and getting physical exercise are considerably enhanced in the Skerries?—Yes, in winter, but we have beautiful weather in summer.

10,354. Every second or third day is wet?—Yes, in winter.

10,355. But all over the year?—I don't think so.

10,356. You have not found the weather so bad as to totally prohibit your giving physical training?—No. We have no winter in the sense of frost and snow. Although it rains, it is not raining during the whole twenty-four hours.

10,357. You in the Skerries do not include the *quoad sacra* parish of Whalsay?—No, we are only a portion of it.

10,358. The other portion has its own school?—There are two schools.

10,359 Your school is the Skerries School?—Yes.

10,360. How often does the Inspector visit you?—Once a year.

10,361. What is the size of the school building?—It is used also as the church. We built it two or three years ago. Size of school buildings: accommodation.

10,362. Is it a building of one room?—Yes.

10,363. What is the size of it?—About 50 feet by 20 feet.

10,364. Is it fitted with benches?—Yes, it is beautifully fitted.

10,365. Fixed benches?—Yes.

10,366. Raised on steps?—No. The desks and seats are movable.

10,367. So you can lift the whole of them out and clear the place?—Yes.

10,368. Is it well lit and ventilated?—Yes, it is beautifully done. The Inspector said it was the best house in the islands.

10,369. What is the population in the Skerries?—From 130 to 150. Population.

10,370. All class and all ages?—Yes, a great deal depends on the lighthouse colony.

10,371. Then your statistics of the Skerries during the eight years you have acted as Registrar, and in which the average age at death was seventy years, are not founded on big figures?—No. There was a young man died just a day or two after I wrote my evidence.

10,372. In this average of age at death, which is slightly over seventy years, do you include infants?—We had only one infant who died in the eight years. That infant was born weak and not in normal condition of health.

10,373. In so small a population you could scarcely say whether the infant mortality was great or not?—It is not great, because the people are very healthy.

10,374. Are you the only teacher in the Skerries?—Yes.

10,375. You have no female assistant?—No, but my wife helps in the sewing.

10,376. Is that part of her duty or does she do it voluntarily?—If she did not do it then someone else would have to do it.

10,377. She is not remunerated for it?—No. We act more as general assistants for everything in the Skerries. The teaching is only one thing.

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10,378. You act as missionary and doctor too?—Yes.

10,379. What number of school children have you?—I think the average last year was twenty-five.

Number of scholars.

10,380. How many were males?—twelve or thirteen.

10,381. Did they attend regularly?—Yes, remarkably so.

Varying population.

10,382. Is the population of the Skerries a varying population?—During fishing season we have an influx of fishermen, who come in very large numbers, and we have a large population for about six weeks or so. In the spring-time all the able-bodied people leave us and go to the west of Shetland, and then we are a very poor community.

Inter-marriage: still a healthy population.

10,383. There must be a great deal of inter-marriage in the Skerries?—Yes.

10,384. Do you recognise any diseases among the children arising from consanguinity?—No, it is a singular thing that we don't have any.

10,385. You have no defective sight or blind eyes?—No. There are one or two cases of children born imbecile.

10,386. How many such cases do you know?—Just one, and then there was the one which I spoke of that died.

10,387. Have you much club-foot or hare-lip, or other signs of consanguinity?—No, these are the only two cases I know of.

10,388. Is there much consumption?—I never knew of a case.

10,389. There is no other form of disease that you can specify?—No.

10,390. On the whole they are a healthy population?—Yes. I know when a case is bad, and I then send for the doctor.

Doctor.

10,391. You have no doctor on the island?—No.

10,392. Where does the doctor come from?—Twelve miles away.

10,393. He can only visit you in great emergencies?—We send a big boat for him and he comes to us.

10,394. Can you always send and can he always come in a boat?—Not in winter.

10,395. Might there be weeks when he could not come?—Yes, and months.

Hours of light and darkness.

10,396. What are the hours of darkness in Shetland?—We have to light the lamp at half-past two in the afternoon.

10,397. When do you extinguish the lamp in the morning?—About nine.

10,398. So you have daylight from about nine to two?—Yes. It is not actually dark at 2.30, but we have to go to the windows.

10,399. In the morning can you manage without artificial light?—Yes.

10,400. What holidays do you have in your school? Six weeks.

10,401. At what time of the year?—Just to suit the harvest.

10,402. The holidays are movable?—Yes.

10,403. Do you regulate them?—The people regulate them. I just ask the parents what time would suit, and we fix them in that way.

Training self taught.

10,404. You state that you learned physical training from a book. Suppose you wished to improve yourself in physical training, how could you do it; could you go to Edinburgh and study it in your holidays?—Yes.

10,405. You would have to pay for it yourself?—Yes.

10,406. Would you get your passage or instruction paid?—I don't suppose I would.

10,407. So you are really dependent upon your own intelligence and the books?—Yes.

10,408. It is probably less perfect than if it had been taught you by a school inspector?—Yes, necessarily so.

10,409. You feel the defect of it yourself?—Yes. I don't have the confidence that I would have if I saw it actually done.

Expert inspector: beneficial.

10,410. Do you think that if an inspector were appointed and came regularly round, you could learn sufficient to satisfy you that you were teaching physical training in a thorough and proper way?—Yes, I think so. Even if the inspector came for a short time he would see that the teachers knew about the training. Very few teachers past forty years of age know much about it, but they try to learn as much as they can from a book.

10,411. The inspector could convey to you the newer advances as they are introduced?—Yes.

10,412. Take one day and tell us what your physical teaching consisted of?—I had dumb-bells.

10,413. Made of metal?—No, wood. I got them made.

10,414. Did you get them gratuitously?—Yes.

10,415. Had you no funds?—No.

10,416. Could you not obtain funds?—I could obtain funds, but the cost was so small, and the man who made them was obliging enough to help us.

10,417. You don't have one of your dumb-bells here?—No.

10,418. When teaching the boys the last time, how did you proceed?—I forget the rules; but they took the dumb-bells and went through the various motions, and then after that I gave them a part of the military drill, and they liked it.

10,419. What is that?—Just forming a line and fours, and two deep, and learning how to march.

10,420. You don't teach them the handling of a rifle or bayonet?—No.

10,421. What about the girls?—They just go through the same exercise as the boys.

10,422. They also form fours and have the same physical and military drill?—Yes, the girls like it as well as the boys.

10,423. You never give them swimming lessons?—No.

10,424. Can all the boys in the Skerries swim?—I don't think so.

10,425. Only a few?—Yes.

10,426. A very few?—Yes.

10,427. Would there be any difficulty in teaching them swimming?—I don't think so.

10,428. Have you such a beach and such facilities as would make it safely taught at all suitable seasons?—Yes.

10,429. Is military drill beyond the mere forming fours and such elementary things possible with you?—After fourteen I should like to see them getting a chance of being taken into the Reserve, which at present won't take them until they are eighteen. If they went in at fourteen they would get the same instruction as their big brothers.

10,430. Your instructor has been teaching them military drill?—One of the fishermen.

10,431. What does he teach? Does he get beyond forming fours and marching?—No.

10,432. There is no company drill or skirmishing?—No, they do not go so far.

10,433. Have you games?—Yes.

10,434. What games do you have?—Football and other games with the ball, and then I taught them some games myself.

10,435. What do you mean by the war game?—The school divides itself into two sections, and each sits on its own territory with a king, queen and court. One territory wants to annex the other territory, and the whole object of the game is to defeat the wickedness of your opponents.

10,436. Is it done with stones or fists?—No; but they use their fists if the enemy use fists.

10,437. Do you encourage those games?—Yes, I like the game myself. I got my leg broken on a school playground. They don't fight in a bad way and hurt themselves, but one boy tumbles another boy over, and he is none the worse of it.

10,438. Are musical games possible in the Skerries?—Not very.

10,439. Would a medical inspection be possible in any way?—Yes; our medical officer comes once a year to vaccinate, and then he comes when he is called for in any serious case of illness. A medical examination of the school would be a very simple matter.

10,440. Can you carry out the separation of the sexes in your instruction in physical training?—No.

10,441. You don't think it desirable?—No.

10,442. And you don't think it possible?—No.

10,443. Your school is the type of many a Scottish school where the separation of the sexes for physical instruction would be neither desirable nor possible in your opinion?—That is so.

10,444. What is your school rate in the Skerries?—We have no school rate at all; we are a church school.

10,445. The church would have to provide you with the necessities for physical training?—Yes; but I expect they would leave us to ourselves.

10,446. What is your position with regard to the Education Department?—They recognise us as a church school.

10,447. Do they give you any money?—A grant.

10,448. Where does the other money come from?—We get money from the Education Department and the church, and then there is the Home Mission.

10,449. What are the proportions of the funds which you receive from these three sources?—More than one-half comes from the church.

10,450. And from the Board of Education?—The other half.

10,451. *By Sir Henry Craik.*—Is that really so, that your private subscriptions are more than our grant?—Yes, there is a salary attached to the lay missionary, but that is not entered on the schedule. I have counted what is given to whoever is there as lay missionary for reading the sermon, but I have not entered that as a contribution to the Education part. The Education Committee pays a part. The local contribution would be one-half, I think. They give £25 or £26, I forget which.

10,452. *By Mr Fergusson.*—The grant comes to about £1 a scholar?—Yes.

10,453. *By Mr M'Crae*—You do not have a continuation evening school in the Skerries?—Yes, we have had one every winter.

10,454. Do you find that successful?—Yes, very.

10,455. Are the classes well attended?—Yes, very fairly.

10,456. By both sexes?—Yes.

10,457. After your boys leave school they go to work; there is no period during which they loaf about?—No. There is loafing in winter when there is nothing to do. Ever since I went there we have had continuation classes; we had them before we thought that the Department recognised them.

10,458. Do you teach physical training at those evening schools?—No. Owing to my lameness, I would not be a very successful teacher. We teach navigation and reading.

10,459. You say that physical training should be made compulsory. Of course it is compulsory up to fourteen, so far as a school system is concerned?—Yes.

10,460. What would you recommend ought to be done in your district and in Shetland and Orkney after the age of fourteen? Would you teach physical training in the continuation schools?—It would be a very expensive thing to teach, because you would require a separate teacher for every school. It would be a very good thing if they could be allowed to enter the Naval Reserve at an earlier age.

10,461. You recommended that they should be taught drill after the school age?—Yes.

10,462. Are any of your lads attached to a Volunteer company?—No. There is only one company in Shetland, and that is at Lerwick. *Mr G. Mackay.* 16 Sept. '02.

10,463. *By Mr Alston.*—Judging from your statement, the Shetlanders seem to be an exceedingly healthy and physically fine set of men?—Those that I know are so.

10,464. Your reason for being so strong on physical drill as to go the length of making it compulsory is not to improve their physical quality, but is some other reason?—Speaking generally, the Shetlanders develop through the physical training they get on their boats, but that might be guided.

10,465. You want it to produce some other quality than fine physical powers?—Yes obedience to orders, and then it gives a man a certain value, that he is able to act in concert with his fellow-men and is dependent on them, and often it promotes good comradeship. Training desired for discipline, etc.

10,466. Physical training in the schools and military drill produce these qualities?—Yes, and self-reliance.

10,467. The men in the Skerries are all fishermen?—Yes.

10,468. Their practice at rowing will be of a very laborious kind. It is not scientific in any way?—No.

10,469. Their knowledge of seamanship is confined to the small boats?—Yes, but a good many of them go to the merchant marine and become captains.

10,470. Do they go to the whale fishing?—Not so many.

10,471. That used to be a very large thing?—The herring fishing has been a great success for some years past, and that has kept the people at home.

10,472. Their exercise in seamanship is somewhat limited?—Yes. Seamanship and navigation.

10,473. Could training be got in seamanship?—Yes.

10,474. They are not taught seamanship by the men in the Naval Reserve?—No. One of my boys, who is a captain in a ship, learned his navigation in the continuation school.

10,475. In the Naval Reserve they don't drill them in handling guns?—I don't know.

10,476. You say that they very largely go into the Naval Reserve, and that you would advocate the formation of Scouts?—Yes, in the Highlands. Of course I say the Shetlander is a seaman. Recommends Naval Reserve for Shetlanders: Scouts for Highlanders.

10,477. He would have no opportunity of mounted training unless you sent him to the mainland?—No, he is a seaman by nature.

10,478. As to the Naval Reserve and the Scouts to which the Shetlander might be sent, what about the feeling of the parents in regard to military service of that kind?—I think that they would be agreeable. The great objection that they had to military training was that the boys went away and associated with a loose kind of people, and thus their boys were lost to them. If parents were certain that their boy was in respectable company, then there would be no objection to military life in itself, but the reverse is the case. The Volunteer companies are very strong in every parish, and so would be the military life, but they would object to their boys going away and never being heard of again. Their objection arises through the bad name that the army has got; they have no objection to the army as a profession. Military training: parents would not object if sons not sent away.

10,479. That is to say, the word military is not known in an evil sense in Shetland?—That is so.

The witness withdrew.

Mr George Cruden, M.A., examined. *Mr G. Cruden, M.A.*

10,480. *By the Chairman.*—You are an advocate in Aberdeen, and Honorary Fellow of the Educational Institute of Scotland, and lecturer on Physical Training in the University in Aberdeen?—Yes.

10,481. You appear here as representative of the Aberdeen University?—Yes.

10,482. Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.* football, cricket, hockey, etc. (1) Are they organised and supervised by masters? (2) What is the size of the playing field and its distance from the university?

(*b*) Drill: how taught, and by whom? Gymnastics, free or applied? Is there a gymnasium attached to the university?

(*c*) Athletics, *e.g.*, jumping, running, etc.

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(*d*) Handicrafts.
(*e*) Voice training.
(*f*) Cadet corps, rifle shooting.
(*g*) Swimming. Is there a swimming bath attached to the school?
(*h*) Fire brigade corps.
(*i*) First-aid and ambulance.

Aberdeen University: games organisation.

Ans. (*a*). (1) Regular games are organised and supervised by the 'Field Committee' of the University of Aberdeen, which is constituted in terms of certain rules and regulations.

Playing field.

(2) The size of the playing field is about eight acres, contiguous to King's College, and about a quarter of an hour's walk from Marischal College. *N.B.*—These two Colleges constitute the University of Aberdeen.

Volunteer Company.

(*b*) Military drill is taught to about 120 of the students enrolled in the University Company attached to the 1st Volunteer Battalion Gordon Highlanders, of which I am at present the commanding officer. The instruction in military drill is imparted by the officers of the Company, aided by the Instructors of the Volunteer Battalion to which they are attached. Besides the foregoing, the King's students, male and female (numbering from 60 to 70) receive instruction in physical drill during the summer session from the members of the staff of the Aberdeen Physical Training College. A certain number of students, varying from 15 to 25, have formed themselves into a Gymnastic Club, and attend the gymnasium attached to the Aberdeen Physical Training College for training in 'free' and 'applied' gymnastics. During the winter and summer session (1901–1902) about 20 of the female students formed a Gymnastic Club, and also received instruction in the gymnasium of the Aberdeen Physical Training College. There is no gymnasium attached to the University at present, but, in the reconstruction of the University buildings, provision has been made for a large gymnasium at Marischal College, with ample cloak room and lavatory accommodation, and with a suitable lecture room attached, to be used by the lecturer on Physical Training for his pupils. At present lectures to the King's students on Elementary Physiology and on the Laws of Health (that is, School Hygiene so far as concerns school buildings and scholars) are given in the King Street Public School, where the King's students have also the use of the school gymnasium for their physical training.

King's students: physical drill.

Gymnastic clubs.

Gymnasium to be provided.

Health lectures.

Athletics.

(*c*) The students have an athletic club where practice in jumping, running, etc., is engaged in, and in the summer session the students have annual sports; a few of the more proficient taking part in the annual Scotch Inter-University Sports.

Handicrafts.

(*d*) No provision is made at the university for such training, with the exception of the male King's students, who have a short course of manual training.

Voice training.

(*e*) Voice training. There is a Choral Society consisting of about 40 members, and this society is conducted by Mr Sandford Terry, Lecturer on History in the university.

Cadet corps.

(*f*) There is no cadet corps connected with the university, but the members of the University Rifle Company, attached to the 1st Volunteer Battalion Gordon Highlanders, go through the annual course of musketry prescribed for volunteers, and they have also the use of the regimental range for private practice.

Swimming: no bath.

(*g*) There is no swimming bath attached to the university, but a few of the students have formed a swimming club, and taken advantage of the Corporation Swimming Baths at the beach, which is distant about three-quarters of a mile from Marischal College.

Fire Brigade: none.

(*h*) There is no Fire Brigade Corps connected with the university.

Ambulance.

(*i*) About 140 of the students are members of the Aberdeen Royal Army Medical Corps, and receive a regular course of training in first-aid and ambulance work.

Time allotted.

10,483. What time is allotted to these or any of them *per diem* and *per week*? Are any of these taken in ordinary university time?—The members of the Gymnastic Club have the use of the gymnasium of the Aberdeen Physical Training College for six hours per week. The members of the volunteer corps attend the number of drills necessary under the volunteer regulations. The Choral Society meets for practice one hour per week during the winter session, while the other athletic clubs have no definite arrangements for practice, except that each member of the various clubs is supposed to train for matches held on Saturdays. The university regulations do not set apart any time for the practice of athletics, with the exception of the King's students, whose hours for physical training form part of their university work.

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10,484. How far are the existing opportunities taken advantage of? Give numbers approximately under the various heads?—There are 119 members in the athletic club, which, under the articles of constitution of the association, ought to include every member of every affiliated club. This year being the first, and not a complete year of the association, several members of each separate club have not yet joined the association.

I am informed by the secretary of the University Athletic Association that, including the members of the R.M.S.C., who are not affiliated to the Athletic Association, during session 1901–1902 about 200 students took part in athletics. The number of matriculated students (including the summer session and lady students) for 1901–2 was 830. Of these the following is approximately the numbers belonging to the various clubs, viz.—Cricket, 20; shinty, 25; Rugby football, 50; association football, 25; tennis, 20; gymnastics, 20; swimming, 50; boating, 20; and golf, 40;—in all, 270. Besides these there are the members of the University Rifle Company and of the Royal Medical Staff Corps, most of whom are members of one or other of the above clubs.

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10,485. What organisation exists for the promotion of physical training in any form in the university?—The following organisations exist for the promotion of physical training in the university:—

(1) The Field Committee and Athletic Association (for constitution of which see articles of constitution); and

(2) The special course of training established in 1899 for the benefit of the King's students.

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10,486. What, in your opinion, are the defects of the system?—In my opinion the difficulties of the organisation of games arise from the following circumstances:—

(1) That no compulsion is brought to bear upon the students to join these clubs; and

(2) A large proportion of the students are neither physically fit to engage in these games, and, even assuming that they are fit, they have had little, if any, practice in many of them prior to their becoming students, and they therefore fail to be attracted by them.

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10,487. What remedies or suggestions have you to propose? Should there be any form of compulsion?—These games afford what might be called 'recreative,' as opposed to 'educational,' exercises. Assuming that each student is sufficiently well developed physically and in a normal state of health before he matriculates, these games might with good results be made compulsory Until that is found to be the case, the compulsory attendance of students at these games would probably result in greater injury to their health than if they were not to take part in them at all.

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10,488. Do you think a medical examination of students from time to time necessary, with a view of development of physical training?—I am strongly of opinion that periodical medical examinations of students at stated intervals during their university career would be of immense advantage to the students themselves, and, if followed by a compulsory period of training in prescribed exercises, would not only make up to a great extent for the want of proper training in their younger days, but would also increase their health and strength, enabling them to study with far better results, and, when they leave the university, they would be better fitted for any profession they may adopt.

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10,489. Generally, what suggestions or proposals have you to make regarding physical training in the

Scotch universities?—From a national point of view the physical training of the students attending the university must aim, not at producing a few expert athletes in one or more of the recognised sports of the day, but at developing the body of every student by rational methods of exercise to ensure *health*, so that when he leaves the university he shall have every function of his body fully developed and in the highest state of efficiency as well as his mind. Such a training would result not in the production of acrobats or record-beating athletes, but in health, and so the *mens sana in corpore sano* would be the nation's reward. To attain this object the system should be principally educational in its character, and not recreative as is the case at the present time.

10,490. Generally, state your school and university training, your former experience and your present position?—Up to the age of fourteen I had no special physical training, apart from engaging as a boy in games usually taken part in by pupils in country schools. For two (fourteen to sixteen) years I was a pupil in the Aberdeen Grammar School, but, not feeling strong, I took part in none of the usual school games of football, cricket, and such-like. At the age of sixteen I matriculated as an Arts student in the university of Aberdeen, but during my first session I took part in none of the games at the university. At the age of seventeen (1867) I became a private in the 1st Volunteer Battalion Gordon Highlanders, and a few months after joined the Aberdeen Gymnastic and Rowing Club. At that time we had no instructor, and were allowed to practise any exercises we might think fit. At the time of my joining the Gymnastic Club my height was 5 ft. 5½ inches, my weight was 7 st. 7 lb., and chest measurement 30 inches.

In 1885 my measurements were—height 5 ft. 8½ inches, weight 12 st. 3 lbs., chest 42·3 inches, lower arm 11·6 inches, upper arm 14·3 inches.

In 1868 I was appointed honorary secretary of the Gymnastic Club, and retained that appointment until 1890. In 1869 I gained the first prize for general excellence in gymnastics, and for about seven years, with the exception of the year in which I attended law classes at Edinburgh University, I retained that position. While in Edinburgh I became a member of the Edinburgh University Gymnastic Club and carried off the second prize. In 1885, after receiving a special course of training in fencing and gymnastics from a military instructor, I passed through a special course of instruction in the Military Gymnasium at Aldershot and was the first Volunteer Officer to secure a military certificate for gymnastics and fencing. On my return from Aldershot I re-modelled the course of instruction in the gymnasium, basing it on the military system, and at the same time employed my spare hours in the evenings in teaching boys and girls in several institutions, in which my firm acted as secretaries. After two years' experience I found that the military system failed to retain the attention of the children in these institutions, and that the young men attending the gymnasium seemed to lose interest in the work. In that year (1887) the National Physical Recreation Society was founded by Mr Alexander of Liverpool, and I entered a team from our Gymnastic Club for the annual competition for the shield presented by that Society, open to teams of eight from any affiliated club. In that year we reached the final round, but, in London, we were handsomely beaten by teams from Liverpool and Exeter Hall. In the following year (1888) we were again successful in reaching the final round, but in the final contest at Dundee—between Liverpool, Exeter Hall and Aberdeen—we again came in a bad third. In 1889 we again reached the final round, along with teams from the Liverpool and Birmingham Gymnasia, and at the final contest in Liverpool we were placed third, being 2½ points behind Liverpool and 7 points behind Birmingham, who were adjudged winners. In 1890 and in 1891 we again competed, but in the early rounds we were defeated by Dundee and Liverpool respectively.

In 1892 we once more reached the final round, and, in the contest at Dundee between Exeter Hall and Aberdeen, we succeeded in securing the championship of the United Kingdom.

Since then we have twice repeated our performance of 1892, and at present Aberdeen holds the championship of the United Kingdom. In all these years Aberdeen invariably secured the highest marks for musical drill. In addition to my duties as honorary secretary of the gymnastic club, I devoted my evenings to organising classes on the lines adopted by the National Physical Recreation Society for training children in various hospitals in Aberdeen, the teachers being members of our gymnastic club. The result of such training was eminently satisfactory, and there was a marked improvement in the physique of the boys and girls in these institutions.

System: principles: based on Swedish exercises.

10,491. Give details of your system of physical training, on what based and how carried out, etc.?—In the military system, which we at first adopted, the exercises laid down were confined to Swedish exercises, or, as they are called, 'free gymnastics,' with the addition of dumb-bell exercises without music, but I found that these exercises soon failed to retain the attention of the children. I therefore—aided by the advice and musical knowledge of Mr John Thomson, junr., who was at that time cashier to my firm—proceeded to devise a much larger variety of exercises than were then included in the military system, introducing—in addition to dumb-bells—hoop drill, bar-bell drill, and Indian clubs.

The system of physical training adopted by the Aberdeen Physical Training College is based on the Swedish system so far as most of the exercises are concerned, but in every case a musical accompaniment is provided.

Music: advantages.

In coming to this conclusion I found from experience that the attention of the children was more easily maintained by the provision of a musical accompaniment, and, by providing dumb-bells, hoop, bar-bell and Indian club exercises, we were enabled to produce a variety of movements sufficient to retain and interest the children during their school life, lasting for about four to five years. As the time allowed in school did not exceed half-an-hour per week, it was necessary not only to provide a variety of movements sufficient for a course extending over five years, but also to exercise the children in their usual clothing, and as the physique of a class of say forty children was so very unequal, special care was taken to see that the apparatus (dumb-bells, etc.) used was such as would not be too heavy for the weakest child in the class. I found too, as the result of further experience, that, by introducing a musical accompaniment, the children were able to go through the various movements with less mental concentration than when the exercises were given without an accompaniment. The result of such a system of training seems to me to possess one very important advantage, viz., that while engaged in physical training the child does not require to draw so much upon its intellectual resources to perform the exercises set as when called on to do so without an accompaniment.

Aberdeen Physical Training College: description.

10,492. Describe your physical training college. How and when founded?—The success of this system was remarkable, and in 1889, on the instigation of several gentlemen connected with the city of Aberdeen, I proceeded to found the Aberdeen Physical Training College, the object of which was to 'promote 'an increased interest in the movement for improved 'physical training and to secure for the middle-'aged and for the young a regulated and efficient 'system of training, and to aid by every practical 'means in placing a hitherto neglected but valu-'able branch of education in its proper position 'as one of the most important subjects in our 'national system of physical education.' To bring about this result I acquired a large building in Crown Street, Aberdeen, which is known as the Aberdeen Physical Training College, and which, in addition to supplying accommodation and instruction to the members of the Aberdeen Gymnastic Club, was intended to afford training to boys, girls, ladies, and gentlemen in the most modern phases of physical

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development. To carry out this work I framed a syllabus of instruction, suitable both for colleges and for schools, and submitted it to all the educational institutions in the city. Within a short time the Aberdeen Physical Training College secured the support of the Aberdeen School Board, the Aberdeen Church of Scotland and Free Church of Scotland Training Colleges, and in addition our staff were employed in carrying out the training of the children in many of the other schools in the city. Juvenile classes for boys and girls under twelve years of age, classes for girls and for ladies, and special classes for gentlemen engaged in business were formed, and at once met with considerable success.

Results of training given.

The result of the college's system of physical education began to tell. The provision of suitable halls for physical training became part of the building programme of the School Board and other educational institutions in Aberdeen. In 1897 the Governors of Gordon's College, one of the principal educational institutions in the city, recognised the value of the training supplied by the Aberdeen Physical Training College, and erected in connection with their college a large and well-equipped hall. The Aberdeen Grammar School, which had employed our staff since 1881, built a large and commodious hall for the use of the boys attending that school, and in the reconstruction of the Girls' High School in 1897 similar accommodation was provided. In all these institutions the staff of the Aberdeen Physical Training College was employed to carry out the physical training of the pupils, and the fact that the staff of the college are still engaged in this work goes to prove that the instruction given has satisfied the authorities of these different institutions.

Teachers' classes.

In 1895, in consequence of the Scotch Education Department insisting on physical training being part of the school work, special holiday classes were formed in Aberdeen in connection with the college, and at the following centres, namely, Edinburgh, Banff, Fraserburgh, Turriff, Elgin, Ayr, Falkirk, etc. In 1899 I was appointed lecturer in elementary physiology and on the laws of health (school hygiene) to the King's students of Aberdeen University, and the practical training in physical exercises of these students was placed in the hands of the staff of our Physical Training College. In 1899 the physical training of the students attending the Glasgow Church of Scotland and United Free Church Training Colleges was also placed in the hands of our training college, and down to the present day over 3000 teachers have passed through a course of instruction in physical training, and these students are believed to be imparting the system they were taught in many of the elementary and secondary schools throughout Scotland, in England, and in many other countries.

10,493. Describe the syllabus, length of courses of instruction, number of pupils in particular classes, number of pupils attending per annum, etc.?—A syllabus of instruction for the various institutions was drawn up for the guidance of the members of the staff, but, while in the main the syllabus was expected to be followed, the teacher was allowed to modify the exercises given to suit the wants of various classes of pupils to be met with in different schools and colleges. For the students attending the training colleges the time allowed is one hour per week per session, or about forty-two hours in all during the college year. During the first half of the session the junior and senior students—male and female at different hours—are taught the various exercises in our text book, while in the latter part of the session the students are divided into sections, and the senior students in these sections are called out to drill the rest of their section in turn. Owing to the short time devoted to physical training, this college only aims at teaching the teachers how to do all the exercises in the text book and to instruct only in what might be termed a 'first lesson' to a class of children. In the special holiday classes for teachers the time is reduced to a fortnight, or twelve working days of at least four hours a day. During the first ten days of the course a scheme of instruction is carried out similar to what is given to the students attending the training colleges, and on the eleventh day each student has to teach the said first lesson, which takes up about ten minutes, and marks for practical efficiency in drill are awarded according to his or her proficiency. During the session (both at the colleges and in the special classes) two lectures—one on the physiology of bodily exercise and the other on the practical work of a teacher of physical training—are delivered, and, at the end of the session or—in the case of the special teachers' classes—on the last day of the course a written examination on these lectures is held, and the marks earned in the practical examination, added to the marks made in the written examination, determine the grade of the certificate to be granted. In the teachers' classes the numbers have varied from twenty up to forty, and, when the class exceeds thirty, additional teachers are employed to assist the teacher who is specially in charge of the class. In those of the Board Schools of Aberdeen where the services of the staff of the Aberdeen Physical Training College are employed, over 7000 children annually receive instruction in physical training, and in the schools where the staff of the college are employed, and also where they are not employed, each child receives at least one half hour's instruction in physical training weekly during the year.

Course of instruction.

Time allotted.

Teachers' classes: course.

10,494. How do you carry out the instruction and inspection of teachers? At what various centres do you hold classes for the instruction of teachers? Give the numbers attending these various classes, length of course necessary to obtain certificate?—At the various training colleges, and in connection with the special classes for teachers, the instruction is given by certain members of our staff who have been specially trained for that purpose, and at the close of the session, or at the close of the special class, an examination in the practical work is carried out by myself, and the written papers are set and examined by me. The classes in connection with the Aberdeen Physical Training College for the instruction of teachers have been held at the centres mentioned (Q. 10,492), and the numbers attending these classes varied from twenty to eighty. The course of instruction in the special holiday classes for teachers extend, as stated above, over twelve working days of at least four hours per day, forty-eight hours of instruction in all, but, in addition, especially during the second week of the course, the teachers generally spent four to six additional hours for special practice.

10,495. By whom are these certificates granted? How are these classes taught, and by whom? Give number of attendances necessary for gaining a certificate?—Certificates of different degrees of efficiency are granted to the teachers by the Council of the College, on the report of the examiner, and for further answer to this question, reference is made to my foregoing answer.

10,496. Are men and women taught separately or together?—At the training colleges the men and women are taught separately, but at the special teachers' classes they are taught together, and this system has been found to be of great advantage.

10,497. Give approximately the fees charged these teachers for courses of instruction?—At the training colleges a general fee of £50 or thereby for a course of instruction has hitherto been charged, and if the instruction requires the services of two teachers, a fee of from £50 to £60 has been charged, while, in addition, a fee of 10s. 6d. per student to cover examination and the issue of certificates has been charged. For the special classes for teachers a fee of £1, 1s. for the course of instruction, and a further fee for examination for the college certificates, varying according to the size of the class from 10s. 6d. to £1, 1s., has been charged.

10,498. How and by whom is the inspection of these classes conducted?—See my previous answers.

10,499. Do you recommend teachers who have been granted your certificates to teach your system

of physical training in their schools?—Teachers who have been granted the certificates of this College have never been recommended to teach our system in their schools, but I have every reason to believe that they have done so.

10,500. Can you state as a fact that this is rigidly and extensively carried out?—While I cannot state as a fact that our system of physical training has been rigidly and extensively carried out, I have again and again been told by teachers who have gone through our system of instruction that they have found our system not only producing satisfactory results in their pupils, but also that the pupils themselves were anxious for the drill hour, and that one of the most effective punishments they could inflict on the pupils was to debar them from their drill lesson.

10,501. Can you state approximately the number of schools in Scotland in which your system is taught?—In Aberdeen, Aberdeenshire, Banffshire and Kincardineshire, and in most of the schools in Scotland north of these counties, I have reason to believe that our system is taught; while in Fifeshire, Argyllshire, Ayrshire, the Lothians, and in many other counties throughout Scotland our system will be found in many schools.

10,502. How often is your system changed and remodelled?—Special instructions are given by our Council to the members of our staff to report any improvements in our system which may come under their notice while engaged in teaching. These are all noted, and every four years or thereby we alter and re-model our syllabus in order to keep it abreast of the times.

In addition, my bookseller has a standing order to furnish me with a copy of every book bearing on physical drill that is published, and these are handed to our staff to peruse and to pick out any new exercises they may find. These are tested, and if found to be useful are added to our repertoire.

10,503. Do you consider a medical examination of teachers in view of their physical training necessary or desirable?—I consider a medical examination of the students attending our training colleges would be a step in the right direction, but if a medical examination were made of these students in their earlier years, such an examination might be dispensed with in the Colleges.

10,504. Do you recommend special clothing for boys and girls undergoing physical training?—Special clothing for boys and girls undergoing physical training would undoubtedly be of great advantage, but from a practical point of view, and considering the number of subjects that have to be taught under the Code, and the limited time available for physical training, it would be almost impossible to be carried out in our large public schools.

10,505. Is there, at your Physical Training College, a register kept, shewing the height, weight, chest girth, spirometry, and biceps girth of those attending the classes?—A register shewing the height, weight, chest girth, and biceps girth of the members of the Aberdeen Gymnastic Club has been in existence for many years, but it has not been carefully attended to. That such a register should be kept by teachers in public schools would undoubtedly be valuable for obtaining reliable statistics as to the value of physical training, but here again the want of time renders such a proceeding difficult.

10,506. Distinguish the following forms of physical training, viz.—ordinary exercise, ordinary work, walking and running games, *e.g.*, football, cricket, etc., free gymnastics, musical drill, applied gymnastics, military drill, voice training, rifle-shooting, boxing, swimming? What, in your opinion, are their respective merits?—(1) Ordinary exercise such as walking tends to improve the health, but if left to the child itself it will probably be carried out at irregular intervals, and as it more directly exercises only the lower limbs, it will have little effect in developing, say, the chest, which contains the principal vital organs.

(2) Ordinary work, such as a blacksmith's, is unsuitable for development, as it will develop only one part of the body, say the right arm, leaving probably the left arm and left side of the body, which may be the parts specially requiring development, undeveloped. Ordinary work.

(3) Walking and running.—Both necessary in any course, although exercising only certain parts. Walking and running.

(4) Games.—All games exercise principally the lower extremities, and, as the object a child has in view is not its own development, but to win the game in which it is engaged, it (the child) will probably confine itself to those games in which it has to use the part of its body which is already in a fair state of development, leaving the other parts of the body, which may be undeveloped, untouched. Games.

(5) Free gymnastics or Swedish drill.—These exercises, being founded on physiological principles, are of great advantage in the development of the body and in increasing the health of the child, but, owing to the want of a musical accompaniment, fail to secure and retain the attention of the pupil. Free gymnastics.

(6) Musical drill.—This form of exercise, provided the apparatus, such as dumb-bells, Indian clubs, etc., used is not too heavy for the weakest pupil in the class, is eminently suitable for the development of children of all ages in our elementary as well as in our secondary schools. Musical drill.

(7) Applied gymnastics.—If 'applied gymnastics' means the use of fixed apparatus, such as the horizontal bar, parallel bars, and such like, I consider that unless the pupils are trained under the personal supervision of a skilled instructor, the result would be more likely to cause injury to a growing child than to benefit it. Up to fourteen years of age such exercises are, in my opinion, unnecessary, but from fourteen to eighteen years of age boys might, with advantage, be formed into cadet corps, provided these corps are attached to some volunteer corps, and provided they are trained by the instructors of that corps, and, in addition to military training, receive a modified course of 'applied gymnastics.' Applied gymnastics after fourteen in cadet corps.

(8) Voice training.—This exercise is most valuable for children provided they are taught by specialists, for, in addition to the training of the voice, the exercise has a most direct and beneficial effect upon the lungs. Voice training.

(9) Rifle shooting.—The ordinary boy under fourteen years of age is physically incapable of acquiring any practical knowledge of rifle shooting, but between fourteen and seventeen the average boy is capable of acquiring a certain proficiency in the use of the present service rifle. Rifle shooting.

(10) Boxing.—In Scotland boxing is scarcely to be found, and from a physiological point of view the advantages to be derived from it are small, owing to the position which a boxer has to assume while engaged in such exercise. Boxing.

(11) Swimming.—If this accomplishment has to be taught to children, it should be done only in a proper swimming bath, where the temperature of the water is fairly constant, and where continuous careful supervision can be given. Swimming.

10,507. What, in your opinion, is their absolute and relative value to children aged from six to twelve, twelve to fourteen, and fourteen to eighteen years? Are these or any of them required by and advantageous to the present race of children?—(1) Children from six to twelve years of age will benefit most by engaging in walking and running, free gymnastics, musical drill and voice training, provided they are taught by skilled teachers. Children six to twelve.

(2) Boys and girls between twelve and fourteen years of age would develop sufficiently by the above-mentioned exercises, and swimming might with advantage be added. Boys and girls twelve to fourteen.

(3) If the children in our public schools receive regular and scientific instruction under skilled teachers in walking, running, free gymnastics, musical drill, voice training, and swimming, the results, from a national point of view, would be eminently satisfactory. Public school children.

10,508. What, in your opinion, are the effects of such

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Advantages; physical, mental, and moral.

physical training—moral, physical, and intellectual?—As the result of the training in the subject mentioned in Q. 10,507 (3), the physical and intellectual advantages to the nation would be immense, and in the case of boys from fourteen to eighteen years, the addition of rifle shooting would undoubtedly add to the safety of the empire. My experience is that boys and girls, who are engaged in exercises such as are above mentioned, are more likely to maintain a higher standard of life than the boy or girl who spends his or her spare time loafing in the streets and smoking cigarettes, or in a dancing hall.

System: not uniform but on certain defined principles, with considerable latitude to teachers.

10,509. Is a uniform system in schools desirable or necessary?—A uniform system of physical training in Scotland is neither desirable nor necessary. A certain standard, accompanied by a syllabus of instruction up to which the teacher must aim at bringing his class, is an undoubted advantage; but the teacher, while maintaining the general standard laid down in such a syllabus, should be allowed considerable freedom so as to meet the special circumstances and the normal rate of progress of his pupils.

System: music advantageous.

10,510. What system, in your opinion, do you consider the best?—I do not profess to be able to state what system of physical education is the best, but, as the result of an experience of over thirty years, the system most likely to succeed is one in which a musical accompaniment forms a leading feature of the exercises. These exercises must be sufficiently numerous to supply a certain amount of variety to the pupil during a school life of at least five years.

Time: two half hours per week.

10,511. What is the relation between mental study and physical training? What is the just proportion of time to be devoted to physical training in relation to study?—Muscles are said to be the organs of movement, but of themselves they cannot initiate a movement. They require a stimulus, and that stimulus originates in the will or brain, and is communicated by means of the spinal cord and the nerves to the particular muscle exercised, and therefore it is impossible to perform the simplest muscular movement without a mental exercise of more or less importance. In the ordinary school week I consider that each child should have at least two half hours per week devoted to its physical training. If that were done regularly, and under skilled and competent teachers, the time devoted to physical training would be more than counterbalanced by the increased interest shown by the child in ordinary school work.

Daily training.

10,512. Is physical training most advantageous if carried out daily in connection with school work?—A daily lesson in physical training of half an hour would not, in my opinion, interfere with school work; but looking to the length of the school day and to the number of other subjects taught, it is said to be impracticable under present conditions, and if to be expected, will require to be specially stipulated for.

Halls should be erected.

10,513. What are the respective merits of outdoor and indoor training?—In a climate such as we have in Scotland, a regular system of outdoor training is impossible, and, therefore, to ensure regularity, we must fall back on indoor training, which necessitates the provision, in connection with all our public schools, of a large, well-ventilated, and (in winter) equably heated hall or room for that purpose. Though the cost is considerable, this hall would, in addition to its use for physical training, prove a very valuable adjunct for other school work.

Experience: conclusions.

10,514. What are the results of your experience regarding physical training in all forms?—The result of my experience regarding the question of physical training in this country, which, in addition to time spent in actual instruction, I have studied from a physiological point of view for many years, has led me to come to the following conclusions, viz.:—

Town population increasing: country districts depopulated.

(1) That during the past forty or fifty years the conditions of life have changed considerably in our country. Instead of the people being fairly and evenly distributed with plenty of fresh-air and open-air occupations, they are now yearly leaving the country districts and rushing in ever-increasing numbers into towns, where greater facilities for procuring work can be obtained, and better and more regular pay received, and from which, by means of railways and steamers, the products of their labour can be more easily and cheaply distributed.

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Injurious effects of town life.

(2) That this aggregation of people in towns deprives to an injurious extent the population of fresh-air and open-air occupations enjoyed by their parents and grandparents, and further, in consequence of the daily increasing competition for existence, there is an ever-increasing wear and tear of the nervous and muscular systems of the people.

Remedy: State provision physical training.

(3) That to counteract all these non-health-giving conditions there is an imperative call not only for improved sanitation, careful supervision of food, and such modern health-preserving measures, but also, on the part of the State, for the provision of an intelligent and rational system of physical training for the development and building up the bodies of our citizens.

National system training advocat...

(4) That such a system of physical training would undoubtedly prove a national benefit, and that, therefore, in my opinion, it lies with the Government to supply the machinery for such training, to find the needed grants, and to see to its being carried out.

(5) That this system of physical training should, in my opinion, be of the nature suggested in previous answers.

Suggest general principl... should formula... Nationa... Trainin... Colleges... establis... with... prescrib... functio...

10,515. What remedies or suggestions have you to propose regarding the last part of the terms of reference, viz.—How the existing opportunities for physical training may be increased by continuation classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus contribute towards the sources of national strength?—As to the remedies or suggestions regarding the last part of the terms of reference, I presume the Commission will consult both experts from the army and from the Education Department, and also ascertain the views of those who have devoted themselves specially to the subject of the physical training of children, and whose labours have already met with more or less satisfactory recognition. With the opinion of such men before them, the Commission should formulate the general lines on which the national system of physical training should be carried out. Having agreed upon these general lines, the establishment of National Training Colleges throughout Scotland is to be recommended, with men at the head of these Colleges with high educational qualifications, in addition to their training as specialists in this subject. In these Colleges special classes for training teachers should be formed, a course to extend over a period of at least two years. Before entering these Colleges the candidate should be required to pass an entrance examination in general knowledge similar probably to the present examination for King's students entering the Normal Training Colleges or by production of a Leaving Certificate. During the time the students are in these Training Colleges they should be subjected to periodical examinations to ascertain their progress, and at the close of their course each candidate should receive a certificate of competency graded according to the appearances they make before the examiners. On leaving their College these students should be required to serve a further probation as instructors for two years, either in the Colleges in which they have been trained or in certain groups of schools. At the end of this period of probation, if favourably reported on by special inspectors, these students should obtain their Government Certificate or 'Parchment,' which would entitle them to have their names entered at the Government headquarters as duly qualified. For each teacher thus qualified a grant from the public funds should be given to the College where he or she was trained, to meet the cost of training. In addition to the training of the teachers, which would only occupy a part of the time of the instructors in these Colleges, it would be the further duty of these Colleges to undertake, if desired, the official supervision of the training of the children in the elementary and secondary schools of their respective districts, and for this

work, after inspection by Government officials, a small annual grant proportionate to the efficiency of the work done should be given to said Colleges. While the staff are engaged in this work of supervision in the schools, the students in training at these Colleges should have frequent opportunities offered them of practising their profession in the different schools, so that they might acquire practical experience in the handling of children. It is to the want of this practical experience in the handling of children that physical training has, in so many instances, proved a failure in schools. While these duties would take up a considerable portion of the work and time of the staff in these Colleges, their principal duty, in towns at least, would be to organise and carry on evening classes in physical training in connection with the evening or continuation schools for the benefit of the young men and women of the working classes between the ages of fourteen to eighteen. The fee to be paid by these young people should be a nominal one. A special grant should be given for these classes, equal to what might be gained in any of the other evening school subjects. The compulsory attendance of boys and girls from fourteen to eighteen at these evening classes is to be desired, but before compulsion is resorted to other methods might first be tried. One method has often struck me as being likely to produce the desired result, namely, the issuing of certificates of physical fitness to the young people attending these classes, which would no doubt shortly come to be recognised by the employers of labour as of equal importance to their employees as the present Leaving Certificates are in University and other professional circles, and, lastly, the staff of these proposed Colleges, and every certificated teacher, should be recognised as Government servants, and be entitled to pensions in the same manner as other teachers in State-aided schools.

10,516. Does your experience enable you to compare the physique of town and country children? What defects have you noticed, and in what proportion can they be ascribed to insufficient feeding, bad constitution, bad housing, defective training, disregard or ignorance of the ordinary rules of health?—So far as my experience goes, there is little difference in this part of the country between the physique of town and country children. There is no doubt a considerable number of children who show by their flabby condition that they are fed more on tea and such-like slops than on porridge and milk, which at one time was the staple food of the children in this part of the country. Curvature of the spine is very often met with in the schools of Aberdeen and Aberdeenshire, but the introduction of an intelligent system of physical training would undoubtedly tend to reduce, or at least to modify, this defect.

10,517. Generally state your ideas and opinions on any additional matter within the scope of the reference, and furnish such further information in your power?—On the general question of a national system of physical education, I hold very advanced views. '*Civium vires civitatis vis*,' 'The strength of the 'citizen is the strength of the State,' and therefore I look forward to seeing every physical training school or college presided over by a medical man, who, in addition to his training as such, shall himself have passed through a practical course of training, embracing all the recognised movements for developing the bodies of our children, and, in addition, shall have had sufficient opportunities of actually drilling and training the children. These special teachers or instructors, under a medical superintendent trained on the lines above mentioned, should be men and women of a liberal education in addition to their special training. They ought at least to have reached the same educational platform as school teachers in other subjects. With such an executive staff the national system of physical training would undoubtedly be one not only of an intelligent and carefully-graduated style, but it would also be imparted to the children by specialists specially trained to deal with children, and possessing in addition the powers of attracting young men and women to their classes and of retaining their interest in the subject. Besides, the inducement to young men and women to obtain certificates of physical fitness would draw them to these classes when they found that possessed of these certificates their chances of securing good situations would be almost invariably secured. Further, from a moral point of view, the training thus suggested for young men and women between fourteen and eighteen years of age would be given during the most impressionable and dangerous years of life, and would do much to improve and elevate the moral life of the nation by substituting during these years, for the attractions of the public house and dancing saloon, means of recreation, productive not only of much good to the moral, but also to the physical welfare of the young people. Of late years the question of military drill for boys has bulked largely in the utterances of our legislators. It seems to me that, important as this question is from a military point of view, people overlook the fact that the number of young men required for our army, even in the crisis of a war with a European power, forms a small proportion of the young men and women of the country. However, in the national system of training sketched out by me, all the young men of the country would receive in early life such a thorough physical training as would fit them for taking up arms on behalf of their country in a much shorter time and in a much more efficient manner than they at present can. Again, if the Government saw its way, as no doubt it would, to include the years spent by certificated teachers of physical training in the army as counting towards a pension, we would have many of them applying for commissions in the army or serving as non-commissioned officers or in the ranks, feeling assured that when they left the colours they would *cæteris paribus* be preferred as teachers in those Government institutions. The following is my experience of the various forms of exercises in which I have been interested:—

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Military drill.

1. *Volunteer experience.* — Joined the 1st V.B. Gordon Highlanders as a private thirty-five years ago. Have been a corporal, sergeant, colour-sergeant, ensign, lieutenant, captain, major, and at present I am lieutenant-colonel and honorary colonel commanding the battalion. Personal experience in (1) Volunteers;

Was the first sergeant in the battalion to pass the sergeants' proficiency examination. As an officer I have passed through the Hythe School of Musketry, and held the appointment of musketry instructor to my battalion for three years. Passed for my captain and field officer's certificate at the Aldershot School of Instruction in 1885. Have been a marksman for the last thirty-three years. Hold a Government certificate from the gymnasium in Aldershot. Have passed in tactics, organisation and equipment, military topography, and in military law.

2. *Experience in gymnastics.*—A member of the Aberdeen Gymnastic Club since 1867, and first prizeman for many years. Have taught voluntary classes in gymnastics since 1885, and trained numerous classes of students and teachers. (2) gymnastics;

3. *Rowing experience.*—Have rowed as a member, first, of the Aberdeen Rowing Club; second, as a member of the Edinburgh University Boat Club, and latterly of the Aberdeen Gymnastic and Rowing Club. Have coached numerous crews in both the Aberdeen Rowing Club and the Aberdeen Gymnastic and Rowing Club. Rowed stroke in the first university race between Edinburgh and Aberdeen, and rowed in several races between Aberdeen and the St Andrew Boat Club, Edinburgh. Have also rowed for many years in the Aberdeen regatta. (3) rowing;

4. *Football experience.*—Was a member of the Aberdeen University first fifteen from 1869 to 1874. Was captain of the Aberdeenshire F.C. from 1875 to 1887. Played in the Edinburgh Wanderers and Royal High School F.P. Football Clubs in 1874–5, and captained the North *v.* South team in 1881. (4) football;

5. *Rifle shooting experience.*—Was a member of my company shooting team for many years, and have won prizes at all the Scottish rifle meetings. Have been on (5) rifle shooting.

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the range officers' staff at Bisley for the past ten years, and am at present secretary of the Aberdeenshire Volunteer Rifle Association.

University: compulsion possible.

10,518. *By Mr M'Crae.*—Do you think that it would be looked upon as a possible thing to make these exercises compulsory in the University?—It might be done with the support of the authorities.

10,519. You don't think that the students themselves would object?—I don't think they would object to a certain modified amount.

10,520. Have you given attention to the kind of physical training given in elementary schools, continuation schools, and training colleges?—Yes, I have given attention to that for many years.

System: includes Aldershot exercises with music.

10,521. You have, of course, a definite system yourself?—I have a system in use in Aberdeen.

10,522. Is that based really on what is called the Aldershot system?—It is the result of long practical experience, and almost all the exercises of the Aldershot system are included in it, with the addition of musical accompaniments.

10,523. Wherein does it differ from the Sandow system?—I have not had an opportunity of studying his system.

Continuation classes.

10,524. Are you familiar with the evening continuation classes in Aberdeen?—I have a fair acquaintance with them in connection with physical training, but, I may add that physical training was generally given on a different night from the ordinary night of the evening school.

10,525. Was it a really systematic course?—Yes! but it was given on an extra night, generally on Fridays. In Aberdeen the Friday evening is a sort of off-night with the pupils.

10,526. *By Professor Ogston.*—I suppose that in saying that you represent the University of Aberdeen you mean that you know it so well that you can speak with authority in regard to these matters that your evidence relates to?—Yes. For many years I was actively connected with the various games there, and since then I have seen and am acquainted with a good deal of what is still going on.

10,527. Although you are absolutely familiar, you don't bring with you a mandate from the University to appear in their name?—No.

10,528. You are a teacher and lecturer on physical training there?—Yes.

University lectureship: certificates.

10,529. Have they ever recognised your lectureship on physical training as part of the faculty?—Yes, it was under their auspices that I was first appointed.

10,530. You think that such a lectureship should have full recognition and full weight?—Yes, and especially so in regard to what is called the King's students, who are to devote themselves to teaching.

10,531. At present you teach those who are to become schoolmasters and mistresses?—Yes.

10,532. You provide them with a certificate that they have satisfied you, and that certificate bears the imprint of the University?—Yes.

10,533. That is the only training they get in physical training?—Yes, in connection with the University.

10,534. Is it recognised by the Board of Education?—I understand that there is a diploma in connection with the University of Aberdeen granted by the Committee, and those who pass through a regular course of physical training have a special addition made to that certificate.

10,535. You think that in the future preparation of our teachers for their vocation they ought to be provided with a thorough education in physical training themselves to enable them to impart it properly to others?—That is my view.

Compulsion in University: probably ultimately successful.

10,536. Do you think that a compulsory institution of physical training in the University would interfere with the work of our most zealous students?—I think it would be very difficult at first to get them to realise the value of it, but I think it would ultimately be successful.

10,537. *By Sir Henry Craik.*—You have been acquainted with the University for about thirty-eight years?—Yes, since 1864.

10,538. Looking back on your experience, do you think that there has been an improvement in the physique of the students, or the reverse?—Opportunities for exercise have very much increased in my day, and a certain number of the students take regular advantage of them.

University latterly increase of opportunity for exercise but not properly taken advantage.

10,539. In former days that was much less the case?—Yes, football was the only game that was recognised; we played on Saturday afternoons, and, if possible, we endeavoured to prevent our professors from finding out that we did so.

10,540. It was absolutely discouraged then?—That was the belief among the undergraduates.

10,541. At present out of over 800 matriculated students there are only some 200 that take part?—Yes, these statistics were supplied to me by the secretary of the field committee.

10,542. Although a great improvement has been made, there is a great deal of leeway to make up?—Undoubtedly.

University certain minimum course compulsor

10,543. *By Mr Shaw Stewart.*—Supposing physical education were made compulsory in the University, there would be a regular course, I suppose, with certificates granted at the end of a certain amount of proficiency?—That would depend upon the form that the system took.

10,544. Would you just give us your own idea as to what line that should take?—To begin with, I think you have got the elements of it in the arrangements for the King's students which now represent a considerable proportion of the students attending the University. I think that if the training were further developed we would probably have by-and-bye a good many of the medical students taking special interest in this work with the view of their being qualified as doctors of public health.

10,545. Would you advocate a minimum amount of proficiency that must be attained by all students?—I would suggest a certain minimum course and get them all to conform to that.

10,546. You think that that would be fairly easy to bring about?—I think so, with the co-operation of the University authorities.

10,547. And the students would fall in with the idea?—Yes, in my opinion they would.

Training properly supervised would promote physi health.

10,548. *By the Hon. Thomas Cochrane.*—You were at the Aberdeen University yourself?—Yes.

10,549. You derived great benefit from the physical training that you started yourself?—Yes.

10,550. You state so in your evidence, and you would anticipate the same advantage to other students as you yourself have derived from physical training?—Yes, I undoubtedly think so.

10,551. You have by your system come to be an athlete yourself?—I was in search of health and gained a certain amount of strength. That is why I think that any course of physical training in a University should be under proper supervision so as to produce health and not athleticism.

10,552. You look more at general health than athleticism?—Most certainly.

10,553. Any compulsion you suggest would be in the direction of promoting physical health and not of turning every student into an athlete?—That is so.

10,554. *By Sir Thomas Glen Coats.*—Are there any poor students who must necessarily live in a very frugal manner in the University. We have heard of that all over Scotland. The reason I put that question to you is, I should like to know if compulsory training would benefit those poor students?—You mean that owing to their impecunious circumstances they could not afford sufficient food?

10,555. Yes?—I think that every student in the University of Aberdeen gets a fair amount of plain nourishing food.

University: ages of students seventeen to twenty-one.

10,556. *By the Chairman.*—I am rather ignorant as to the Universities in Scotland. Can you tell me what are the ages of the students at Aberdeen?—I should say from about seventeen to twenty-one.

10,557. Not older?—Not as a rule.

10,558. Have you knowledge of other universities

in Scotland besides Aberdeen?—No. I attended Edinburgh University, but only for one session.

10,559. You have nothing to do with any other university in the way of physical training?—No.

10,560. Have you had pupils to train who had been in other universities?—I have seen students in Aberdeen University who had been in colleges in London—medical students.

10,561. From hearsay, do you know whether there is more physical training at Aberdeen Univerity than at other universities?—There are more games played in the other universities in Scotland than there are in Aberdeen. Football, for instance, is much more played in Edinburgh and Glasgow than it is in Aberdeen.

10,562. But actual physical training is not more encouraged in the other universities than it is in Aberdeen?—I don't think so, so far as I am aware.

10,563. You do not put Aberdeen University forward as pre-eminent in physical training of students, or do you do so?—I think, so far as the training of the King's students is concerned, it has certainly taken the lead.

10,564. How many King's students are there?—From thirty the first year up to seventy.

10,565. *By Sir Henry Craik.*—You speak of the importance of this athletic training of students who are preparing to be teachers. Are there many students in the University of Aberdeen who are preparing for commissions in the army?—Hitherto there have been very few.

10,566. But you think that the university, with such opportunities as are now available, might do a good deal in the way of training for commissions in the army?—Yes, I think so.

10,567. It would give a good class of well-educated men?—Yes, there is no doubt about that.

10,568. By means of the volunteer corps, they would have special opportunities for being trained in the elements of military discipline?—Yes.

10,569. *By the Chairman.*—We shall now examine you on the general evidence that you have given?—Very well, sir.

10,570. *By the Hon. Thomas Cochrane.*—I think you passed first through a special course of military instruction at Aldershot?—Yes.

10,571. You were led to develop that afterwards? You were not satisfied with the course that you went through at Aldershot?—I was very much satisfied with what I got there, and I endeavoured to introduce it in Aberdeen, and I did so to a certain extent.

10,572. Did you find that the military system failed to retain the attention of the children?—My experience led me to believe that the want of the musical accompaniment was the reason of its failure.

10,573. You prefer musical accompaniment to all physical exercises where children are concerned?—Yes.

10,574. Do you find that the various movements are as accurately gone through with musical accompaniment as they are by word of command?—They are carried out by the children with much greater pleasure, and I believe that much better results are obtained by that means.

10,575. It gives them an added interest?—Yes.

10,576. And relieves the mind of any strain?—Yes, it is an antidote to the other work that they are doing in the school.

10,577. You find that under your modified system the children and young men at the gymnasium keep up their interest?—In our gymnasium we found that after adopting the lines that we now follow, the average life of the young men was greatly added to.

10,578. You don't mean their actual life but the number of years they attend?—That is so. A young man used to attend for three years, whereas now he very often attends for double that time.

10,579. That is because he finds greater interest in the work?—Yes, his interest is increased and retained.

10,580. What additions to the military drill have you introduced?—In addition to almost every one of the exercises in the Aldershot system, we have in our text-book, not only a musical accompaniment to them all, but also a large number of other exercises.

10,581. You have dumb-bells and hoop drill, bar-bells and Indian clubs?—Yes.

10,582. Are you particular as to the weight of the bar-bells, Indian clubs and dumb-bells?—Yes, in every case we make it a point to see that the weight is not more than the weakest child in the class can use with safety.

10,583. Do you find that they are suitable for girls as well as boys?—Yes.

10,584. Your system, which has been so successful, has been adopted in other parts of Scotland?—I believe so, and teachers who have practised it seem to find that their pupils like the system.

10,585. Can you give us any places where your system is adopted?—The exercises we recommend are certainly practised in all the schools in Aberdeen and in many of the schools throughout the north of Scotland, and in other parts as well.

10,586. I think you train the teachers?—Yes.

Teachers: training: length of necessary course for proficiency.

10,587. Is that the way in which your system becomes disseminated through the schools?—Principally, and through the students who attend the Aberdeen, Glasgow, and several of the Edinburgh Training Colleges.

10,588. How long does it take to train a teacher who is otherwise ignorant of physical training?—To train a specialist would, in my opinion, require at least two years, but with the few facilities given for physical training in schools, it is very difficult to get teachers to devote anything like that time to qualify.

10,589. How long would an ordinary teacher of a Board School require in order to become sufficiently proficient to be able to instruct a class?—That would depend a great deal on the interest taken by the teacher in the subject. If he is interested in the subject I would say from twenty to thirty attendances for practice, and, in addition to that, ten or twelve lessons in the practice of teaching. That would enable them to start a class in any school. After that their proficiency would depend on how they applied themselves by further study to the subject.

10,590. You think that about twenty lessons would be sufficient for him to attend?—Yes, to learn the different movements, but in addition to that there is the question of learning how to impart these movements to the pupil, which requires considerable practice.

10,591. Do you practise them in instructing one another?—Only in what I might call the first lesson. That is all that can be done owing to the short time available for training.

10,592. When you have taught them they obtain certificates of efficiency?—Yes.

Certificates of efficiency: individual examination.

10,593. Who gives them that?—The Council of our Training College.

10,594. At Aberdeen?—Yes.

10,595. Who gives them the certificate in the classes in other parts of the country?—If the classes are taught by the staff of our Institution, then it would be done by the Council.

10,596. Do you give them all a personal examination?—Yes, and report to the Council the result of the examination. Each candidate is specially examined.

10,597. You teach the men and women separately at the Training College?—Yes, owing to the large numbers attending the classes.

Boys and girls: good results from working together.

10,598. Do you think that boys and girls ought to be taught separately, or could they work together?—I think of the two ways the results are probably better when they work together.

10,599. There is no emulation between the boys and the girls which would lead to any injury to the girls?—I do not think so. The girls generally are quicker.

10,600. The system that you advocate is not so severe that girls could not take part in it?—No.

10,601. Does it require any special clothing?—It would be better if the children had special clothing, but in the short time available for drill it is practically impossible for them to change.

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Free gymnastics.

10,602. You prefer free gymnastics to applied gymnastics for young children?—Yes.

10,603. Applied gymnastics require to be carried out under qualified instructors?—Yes, if the results are to be satisfactory.

10,604. With free gymnastics you don't require a fully-qualified instructor in order to get beneficial results?—You require a certain amount of skill in training the children so as to see that their positions are correct and that the movements are correctly carried out.

10,605. You might get injury through applied gymnastics if carried out under the supervision of a non-qualified instructor, but in free gymnastics you are not so likely to do the child any injury?—That is so; the risk is very slight in free gymnastics.

Uniform system: should be general code with great latitude.

10,606. Do you believe that a uniform system of physical training for Scotland might be instituted?—No, I think the tendency nowadays is to bring out the individuality of every teacher. While there should be a certain standard of efficiency, I think that considerable latitude should be allowed to each teacher to act according to the efficiency of the pupils and to the facilities given for the class or classes being taught.

10,607. Do you think there should be a general code sufficiently wide to enable each instructor to take certain portions of it to suit himself?—Yes, that is my view.

10,608. There should be a code sufficiently wide and embracing a sufficient number of movements to enable an instructor to select from it?—Yes.

10,609. For inspection it would be better to have a certain code?—A certain minimum standard.

10,610. And a certain number of exercises?—Yes.

10,611. So that an inspector going about might see that the physical training was properly carried out?—Yes.

Outdoor and indoor training.

10,612. You consider that in Scotland outdoor training is not always possible?—That is so.

10,613. You prefer outdoor training where it can be carried on?—Yes, but it is impossible in Scotland with our changeable climate.

10,614. It is impossible every day, but there are a great many days in the year when it is quite possible?—Then it becomes very irregular; if it is wet it has to be postponed; if it is very warm it has to be postponed; and in many cases the playgrounds are very dusty. All these conditions would interrupt the training.

10,615. Further on in your evidence you speak of the aggregation of people in towns depriving the population of fresh air to an injurious extent. You place great reliance on fresh air?—Yes.

10,616. You like your physical exercises to be carried on as far as possible in the fresh air?—Yes.

10,617. That is if the playgrounds are suitable?—Yes.

Games.

10,618. Do you believe in playing games as being good for children in addition to set physical exercises?—Yes, I think they are the natural outcome of the child's superfluous energy.

10,619. You place games high in the order of physical exercises?—Provided a child is physically trained first, it may engage in games not only with less risk of danger but with greater pleasure to itself.

Continuation classes: practical inducements rather than compulsion: leaving certificate of fitness.

10,620. You suggest the compulsory attendance of boys and girls from fourteen to eighteen at evening classes as a thing to be desired, but you think that before compulsion is resorted to other methods should be tried. What methods do you suggest?—I suggest the issuing of a Leaving Certificate for physical fitness, that being an inducement which might, without compulsion, attract a very large number of boys and girls to evening classes.

10,621. Would that, in your opinion, attract boys between fourteen and eighteen who have no great desire for physical training?—If the employers of labour would ask for the production of such a certificate, I venture to think that a very large number both of boys and girls of that class would then attend these continuation classes.

10,622. It would not meet the class who are not likely to obtain very permanent employment and to whom physical training might be an advantage?—It would be worth while trying some system such as I have suggested so as to see what the effect would be.

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10,623. You would try to make your voluntary system as attractive as possible?—Yes, and at the same time let the inducement be of some practical value to the child.

10,624. And you suggest as one means that they should obtain a certificate?—Yes.

10,625. Is there any other means that occurs to you?—I cannot say that there is.

10,626. In your experience do you find a good many physical defects among the children?—Not in Aberdeen.

10,627. You talk of curvature of the spine as being met with in the schools of Aberdeen and Aberdeenshire?—That is so.

10,628. You are strongly in favour of physical training for young men and women between fourteen and eighteen years of age. You consider that to be the most impressionable age?—Yes.

10,629. It is the most important time in the child's life to form good impressions and good physical habits?—I have no doubt about that.

10,630. You go on to say that you consider that it would do much to improve and elevate the moral life of the nation by substituting against the attraction of the public-house and dancing saloon means of recreation, moral and physical?—Yes.

Teachers: ages: certificate: course of training.

10,631. *By Mr Alston.*—I think in one part of your evidence you say that you have passed through no fewer than 3000 teachers?—Yes, over that number.

10,632. About what ages were these?—From eighteen upwards.

10,633. Did they all get certificates of competency?—Most of them.

10,634. After what length of training?—So far as the students attending the colleges are concerned, two years of about one hour a week for about forty-two weeks in the year, making eighty-four hours in all.

10,635. Then they not only learned perfectly what they were taught in your college, but were supposed to be competent to impart that instruction in physical training in the schools?—Well, the rudiments. We teach them one lesson and the rest require to be learned by further practice.

10,636. But in getting a certificate are they supposed to teach the complete course?—Yes, with further practice or by a little more study as they go on.

10,637. Is that certificate accepted by the School Boards?—It has been.

10,638. It is not liable to be called in question by any other authority?—It is quite possible that it might be.

Training college.

10,639. Suppose there were one or more large centres established in Scotland by the Government through the Education Department, they would become the ruling power. Would they accept the certificate given by such a training college as your own?—Our training college exists in the absence of any such authority. We would be very pleased indeed to hand it over to the Education Department.

Music.

10,640. In connection with the musical accompaniment to drill which you introduced because it added variety and interest to the course, you used the expression that there was consequently less mental concentration on the part of the child upon the exercise that was being gone through. Is it an advantage that there should be less concentration?—From my point of view I think it is. The more automatic the exercises, the greater will be the relief to the child's mental faculties.

Continuation classes: military *plus* free applied.

10,641. I think we have had evidence to the very opposite effect?—Well, doctors differ.

10,642. Has your experience been that the child benefits by the mere automatic going through of the movements without a mental strain?—There is no doubt about it in my experience.

10,643. *By Mr M'Crae.*—Could you give us your views as to the benefit of physical training in continuation schools as compared with drill?—Military drill?

10,644. Yes?—I think that the best system of all would be to include military drill along with physical training, free and applied.

10,645. You say that you would not propose to make that compulsory meantime in the continuation schools?—I think that children at that age (fourteen to eighteen) have been so accustomed to compulsory school life that we would probably succeed better by endeavouring to adopt some voluntary plan in the first place such as I have sketched out. Exercises: voluntary and attractive, with practical award for efficiency.

10,646. You really think that the better way to get physical training of a proper kind in the continuation schools is by having it voluntary and attractive?—Yes, with some practical award to be gained for efficiency.

10,647. Can you give us any information as to the physical training imparted to the girls at those continuation schools in Aberdeen?—They are taught more or less in the same way as other boys.

10,648. But in separate classes?—Yes.

10,649. *By Professor Ogston.*—Your teaching boys and girls in the same class involves, I suppose, the fact that there is no necessity for separate sexes of teachers; girls don't require to be taught by women?—Both boys and girls may be equally well taught at school age by either men or women. System: text-book.

10,650. So in a poor school, where there is only a male teacher, physical training is still perfectly practicable for both sexes?—Yes.

10,651. In your long experience of physical training you must have found that many methods of physical training were cropping up and being recommended?—Yes.

10,652. I suppose we may assume that you are more or less familiar with the principles of those different methods?—I have studied the different systems to a certain extent.

10,653. Do you think that it is likely that any very valuable new system will be introduced in the future?—I don't think that that is likely. Already there are so many different movements given, and different ideas promulgated, that it seems to me you could now evolve a very valuable course.

10,654. So the time is now ripe for formulating a code which will embrace the best of everything?—Yes, but that code would require to be subject to alteration or modification from time to time as anything further might emerge.

10,655. Have you ever in your large experience observed any harm to the pupils who were being trained physically?—In several cases I have noticed applied gymnastics result in serious injury to boys and girls, but in my long experience of physical training under competent teachers I could not point to any actual bad results from free exercises.

10,656. You mean that gymnastics practised unscientifically may do injury, but if practised properly, gymnastics and physical training may be carried out without risk of serious personal injury?—That is so.

10,657. Is there a large proportion of bad physique that has come under your observation, such as curved spines, bowed legs, flat feet, knock-knees, and so on?—The only one I have given special attention to is curvature of the spine, and that is very often very evident among children of all classes.

10,658. Can you give us any idea of the proportion? Would it be one or ten per cent.?—I could not give any definite proportion.

10,659. Do you think that the proportion of such physical deformities in the children that have come under your observation is so great as to require special methods in connection with the introduction of a national system?—So far as Aberdeen is concerned, I do not think so.

10,660. And the same as regards illness as distinguished from bad physique?—You mean what?

10,661. Consumption and such like?—I have not noticed that.

10,662. Although you very highly approve of music, you are aware that there are places where it is not practicable to use it?—I don't think there is any place in Aberdeenshire where facilities for a musical accompaniment are not to be had.

10,663. Suppose we found in some very remote part of Scotland it was quite impracticable, you don't think that that should be a bar to the introduction of a beneficial course of physical training?—No, but it would be more difficult to retain the attention of the pupils.

10,664. But it would not be prohibitory?—No.

10,665. *By Mr Fergusson.*—You have said that you would not approve of any hard and fast system. I suppose you have a system of your own in a book with everything laid down in it?—We have a book in which are included exercises of various kinds.

10,666. That is, so far as your knowledge goes, the best that there is?—I am not in a position to say that. All I can say is that it has proved satisfactory so far as our experience goes.

10,667. Wherein, in a general way, does it differ from the Aldershot system? Do I understand you to say that it is principally in the variety of the exercises and in the music?—Yes, these are the two special points. Differences from Aldershot system: variety and music.

10,668. Do you know Chesterton's system?—Yes.

10,669. Wherein does it differ from yours?—Almost all his exercises are to be found in our text-book, and many other exercises.

10,670. They are very much on the same lines?—Yes, so far as his text-book goes.

10,671. As to the teaching in schools of children up to the age of fourteen, you think that the ordinary school teacher, if properly qualified, is the best person to teach the children?—It would depend upon so many outside circumstances. First of all, it would depend on the interest shown in physical training by the headmaster or masters of the school; and secondly, on whether or not that teacher has a special liking for the subject or not. Teachers *plus* expert inspector.

10,672. At anyrate you would like to have some expert now and then looking at the work that was being done, and see if things were working right?—Yes, I believe that would be absolutely necessary to work up to a standard.

10,673. What about the inspection of the work: how would that be done?—It would depend on what standard was to be laid down. If it was to be laid down by the Education Department, they would have to find their own inspectors. Inspection.

10,674. Do you think that anyone who is not an expert in these matters is qualified to inspect?—So far as my experience goes, the inspectors of the Education Department seem to have a very fair knowledge of the work.

10,675. And do you think that if they were specially charged with that duty, the whole of the inspection might be done without experts?—They have so many other duties to perform that probably they might not be able to undertake this additional work with the requisite amount of attention.

10,676. Do I understand you to say that you are in favour of medical inspection?—I think it would be very valuable in the elementary schools. Medical inspection desirable.

10,677. As to the time that you think should be given to physical training of all sorts, including drill and all kinds of physical exercises, in the ordinary elementary schools, I think you speak of two half-hours. Do you think that that is sufficient, or do you put it at that because you don't think that it would be possible to get more?—I don't think you would get more. Time: two hours for each week in elementary schools ample.

10,678. If you had to lay down the time, what would you like?—I think that the result of two half hours a week would be very valuable indeed, but further time, if it could be had consistent with the attention required for other subjects, would be better.

10,679. Would half an hour a day be too much?—I think so. I should say that two hours a week would be ample for children in elementary schools.

10,680. As to classes for teachers: your training college instructors teach the teachers?—Yes. Teachers' classes.

10,681. Who examines them?—I do.

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10,682. Personally?—Yes.

10,683. And you grant the certificates?—I recommend them to the Council.

10,684. Are any special instructions given as to dealing with girls who, as we know, at special times require special care?—Yes.

10,685. The teachers are always specially instructed to be careful on that point?—Yes.

Time.

10,686. *By Mr Shaw Stewart.*—You said that half an hour a day might be too much for children in elementary schools. Would it be too much if it were broken up into short spaces of time?—When I stated half an hour a day as being too much, I meant that it was an undue proportion of the school day.

10,687. We have had a good deal of evidence before us to the effect that an increased amount of physical training every day would give relief to the children, especially if it were broken up into two or more intervals. You don't quite agree with that?—No, I don't think that the result would be in proportion to the disorganisation and disturbance of the ordinary school work.

Music.

10,688. With regard to the music accompanying the physical exercises, we have had some evidence that the music rather prevents the teacher from correcting mistakes. While music is being played, it is said, the teacher cannot make his voice heard, and so correct at the moment any mistakes that he sees. In teaching the first elements of physical exercise, you would do that without music?—You mean the position and first movements?

10,689. Yes. That would be done without music?—Yes.

10,690. The music would only come in when it is more or less perfect?—Yes.

Boxing.

10,691. You don't appear to value boxing very much. We have had some evidence to the effect that it was very valuable from a moral point of view; that if a boy was taught how to strike a fair blow he would be very unwilling in after life to strike an unfair blow?—I have not looked at it from that point of view. I have only looked at the position that the boxer assumes before he commences. I don't think that it is good for a young lad, as it has a tendency to contract the chest.

Covered playgrounds.

10,692. With regard to the training of children in or out of school, I suppose covered playgrounds would obviate the difficulty of regular training out of doors?—Yes.

10,693. It would be a good thing if all schools were provided with covered playgrounds?—Yes, if no large and airy halls were available.

Volunteers: physical drill.

10,694. *By Sir Thomas Glen Coats.*—Do you find time for the physical training of either recruits or volunteers in the time at your disposal during the year?—While going through the recruit drills, they get the usual exercises laid down in the drill book, but in the latest issue of the drill book they have done away with what was a very popular part, viz., physical drill with arms.

10,695. Do you think that the physical training of a Volunteer amounts to anything? Does it do him much good from a physical point of view; does it develop him?—There is no doubt that it helps to set him up.

10,696. To a certain extent?—Yes.

10,697. With regard to getting men for the active service companies, do you find that within the age limit you would have drawn indefinitely on your men, but there were a number of men who were physically unfit?—I think the age limit was unnecessary, so long as they passed the doctor.

National system of training: expect great improvement in physique of whole young population

10,698. The question leading out of that is this,—if those volunteers had had a proper system of physical training in the schools and afterwards, they would probably have been very much more fitted to comply with the requirements?—I believe that if we had a regulated system of physical training in our public schools, the standard of the young men of the country would very shortly show a great improvement.

10,699. *By the Chairman.*—Are you interested in the object of the reference to this Commission?—With reference to continuation classes?

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10,700. The reference generally to this Commission?—I have been very much interested in this subject for a number of years.

10,701. Do you believe that any recommendation we may make will do any good?—It is hardly for me to say.

10,702. I just want to know what you think?—I can only speak from my own experience. I am satisfied that some sort of regulated system of physical training for the young people, boys and girls, in our elementary schools, backed up by the educational authorities, would certainly result in a very valuable improvement in the physique of the whole of the people.

10,703. Your reason for that somewhat hopeful belief is that you think that public opinion is veering round a good deal more to the value of physical training than it was?—No doubt people are taking a much greater interest in the subject, but it is necessary that those who are responsible for the training and education of the young should put something before them.

10,704. You quite understand that unless what is recommended is practicable there is not much use making any recommendation. You agree with that?—Yes.

10,705. You don't yourself see that practicability is out of the question; you think that it is possible?—I believe that it is possible.

Witness' system: tested and approved

10,706. You were asked about your own system, but you did not seem inclined to push it very much. Have you supreme belief in your system as against other systems? I ask that because the authors of other systems have pushed their own systems very strongly?—We have left it to those who have come under the system to give their opinion.

10,707. But you do earnestly and seriously think that your own system is the best?—Yes. It is the outcome of long experience, and we have found that it has been appreciated by a very large number of teachers, and they have again and again expressed themselves as quite satisfied with it so far as their pupils were concerned.

10,708. *By Mr Shaw Stewart.*—Do you regard as one of the objects of physical training, other than military, the making children more adept in manual dexterity, and so being more fit for industrial careers?—That is certainly one of the many advantages to be derived from it.

Music: p... cautions.

10,709. *By Mr Fergusson.*—I understood the objectors to musical accompaniment to go this length that ... teacher said, 'I cannot teach a class of thirty children 'and play the piano at the same time,' and also that in teaching the exercise the children do not attain the same smartness. When the exercise is learnt I think they are all agreed that there should be music. It is during the learning of the exercise that they object to the music. Do you agree with that?—You would first have to show them the different motions or the different parts of the movement you wish them to do, but after that is done you can find a pianist in every school, and can devote your own attention to the teaching.

10,710. That is so if there is one person to play and another to teach; but there are many places where the same person has to play and teach. You don't object to that idea, teaching the class their exercise first and then, when they know it, have it with music?—You have to do that, so as to show them the exercise.

Public gymnasia: not practically valua...

10,711. *By Mr M'Crae.*—Have you considered the advisability of having public gymnasia established by the municipality of Aberdeen to encourage physical training?—I cannot say that I have, but I question very much whether that would really lead to such practical results as would justify the expenditure.

10,712. Would it not be a help to the continuation classes if there was some central institution where all could go?—Our experience of public gymnasia has not led us to come to the conclusion that such institutions would be of great practical value.

10,713. *By Mr Fergusson.*—Can you carry on physical training without making it popular—gymnastics are very popular, and for gymnastics you must have

gymnasia?—True, but I understood Mr M'Crae to refer to the establishment of municipal gymnasia.

10,714. Without any reference to the continuation classes?—Yes.

10,715. It would be an absolute necessity to have gymnasia in order to make training for boys over fourteen popular?—Yes, or a room adapted for that training.

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Gymnasia.

The witness withdrew.

Mr Reginald Carter, M.A., examined.

Mr R. Carter, M.A.

10,716. *By the Chairman.*—You have prepared a statement which you have put before this Commission?—Yes.

State your School and University training, former experience, and time in present position.—Clifton College, 1881–1886, football cap; Balliol College, 1886–1890, viii. XV.; Lincoln College, 1891–1901, treasurer of athletic clubs for seven years up to 1901; Principal of the Oxford University Day Training College for four years up to 1901; member of the Oxford University Volunteer Corps for two years up to 1901; now Rector of Edinburgh Academy.

What is the class of school and scholars; give numbers and ages of pupils.—'Secondary School.' Upper school, 300 (roughly); preparatory school, 100 (roughly). Of the total number of 400 about 60 are boarders. The ages range from six to eighteen or nineteen (preparatory, six to ten; upper school, ten to eighteen or nineteen). Parents of good standing; most of them live in Edinburgh or neighbourhood.

The regular outdoor games are:—*Football* (first two terms of session) and *cricket* (third term). Attendance at games or drill is compulsory, except for boys exempted on medical grounds, and boys living at a distance from Edinburgh. By far the greater number of the boys play football and cricket, very few take drill as an equivalent for outdoor games. This drill takes place in the gymnasium after school hours (from 3 to 4 P.M.). It is designed as exercise for the few boys who do not play outdoor games. It is entirely independent of the gymnastic lessons included in the regular school curriculum of every boy.

Hockey is occasionally played in the park when the grounds are not fit for football, or the boys are sent for a *short run* (about 3 miles). Practice for the *games* (athletic sports) takes place regularly during the last three weeks of the second term, when football is over. Boys take turns at running, jumping, hurdle races, and so on.

Two masters have regular charge of these outdoor games; one organises the games of the senior division of the upper school, the other those of the junior division. They are helped by several masters, who take regular turns at practice games every week. The school captains also take a share, and have a certain amount of responsibility; and the bigger boys often bear a hand in coaching the smaller ones.

Sides in practice games are arranged for football according to size and skill; for cricket according to classes, roughly.

There are two fields, each of 9 acres; one at Raeburn Place, seven minutes' walk from the Academy, and one north of Inverleith Park, in front of the two boarding houses, ten minutes' walk from the Academy. Each field has a pavilion. Boys change for games either in these pavilions or at home, according to their distance from the fields.

There are two fives courts at the back of the Edinburgh Academy under supervision of a master.

Over and above the regular outdoor games, every boy, unless specially exempted, goes through a course of physical exercise in the gymnasium. These gymnastic lessons form part of the regular curriculum of every boy between nine and three o'clock.

A well-equipped gymnasium is attached to the school. The junior division of the upper school devotes one-third of the time to free, and two-thirds to applied gymnastics. The senior division devotes practically the whole of the time to applied gymnastics, with occasional free exercises.

All gymnastic instruction is in the hands of Sergeant Sheen, late instructor to the 2nd Border Regiment, assisted by Sergeant Brown and Sergeant Bowie. The classes are so arranged that each instructor has from ten to fourteen boys. A regular school register is kept by Sergeant Sheen, and made up at the beginning and end of each term. School register.

Outdoor games are not compulsory for boys in the preparatory school, but a good many of them take part in football, cricket, and athletic practice, and, generally speaking, they are keen on outdoor games. These games are under supervision.

All preparatory boys take regular gymnastic exercise. This consists entirely of free gymnastics—marching, Swedish drill, and dumb-bell exercises.

Time allotted to outdoor games.—For boys who play football in school matches on Saturdays, three hours' practice, one hour match a week. Time allotted.

For boys who do not play in matches, three hours' practice a week.

For boys who play cricket in school matches on Saturdays, four hours' practice, and roughly about two hours' match a week. (The 1st, 2nd, and 3rd XI. matches take longer than this.)

For boys who do not play in school matches, four hours' practice a week.

Athletic practice, three hours a week.

(Drill for boys who do not play outdoor games, three hours a week.)

Gymnastics.—Two lessons of about forty-five minutes each a week.

The outdoor games take place between 3.30 and 4.30 or 5 in the afternoons after school hours.

The gymnastic lessons take place during school hours between nine and three.

There is a Carpentry Class in the workshop every day between three and four o'clock. Boys may attend two days in the week. Handicrafts.

A drawing and painting class meets four times a week, from three to four o'clock. Boys may attend two days in the week.

There is a School Choir which meets every Friday from 5.15 to 6.30. Two lessons a week in singing are given to boys in the Junior Division who sing. Voice training.

These lessons form part of the regular curriculum between nine and three o'clock.

There is no cadet corps and no rifle shooting. There is no swimming bath attached to the school, no fire brigade, no ambulance.

Other points of interest may be mentioned. Between every lesson there is an interval of five minutes. Boys are encouraged to get out into the yards for fresh air. In the preparatory school there is an interval of half an hour every morning. Intervals between lessons.

Dinner is served in hall from 12.45 to 1.15. Most of the boys attend. After dinner there is an interval of fifteen minutes. School starts at 9 and finishes at 3. Saturday is a whole holiday.

Boys who live in Edinburgh do roughly about half an hour's walking to and from school every day.

All boys unless specially exempted take part in games and gymnastics.

The games are well organised.

The masters are duly qualified, being university men of distinction in athletics. The gymnastic instructors are fully qualified. The janitor, who is of great help in many ways, especially with small boys, is an old navy man.

There is no regular *school* medical examination. Each boarding house has its medical man, and parents, of course, have their medical men. Medical examination.

One of the masters has made a point of examining

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the eyesight of new boys, and we shall probably take steps to make a regular examination of the whole school as regards hearing and eyesight.

Outdoor games.

Outdoor games are best. Boys get fresh air for their lungs and free movement for their limbs. They take naturally to football, cricket, golf, jumping, running, bicycling, and so on. In football and cricket they are encouraged to use their heads, to keep their tempers, and to play for their side. The bigger boys, and in particular the school captains, have definite responsibilities. Generally speaking, games, when properly supervised, are a distinct help to the life of a school. Public spirit is fostered, and the health of boys is improved.

As with work, so with games, care must be taken that boys are not over-strained and over-excited. Too much football, too much cricket, too many school matches, tend to make boys regard games as a serious occupation rather than as a recreation. Their bodily strength may be overtaxed and their intellectual growth hindered.

Games and gymnastics.

School life, I think, should be so arranged that games are given their proper place and their proper importance. Above all, boys should have a reasonable amount of time in the week left over for their own use. As for indoor gymnastics, they are good and useful in that they help to develop a boy's frame, teach him to hold himself well, and give timely relaxation from study.

Proportion of time.

As regards proportion of time.—Probably about four or five hours' a week indoor and outdoor exercise properly distributed will do very well.

At the Academy the school curriculum consists of thirty periods in the school week of five days (a period = from 45 min. to 55 min. according to the time of day). Of these thirty periods, two are devoted to gymnastics. Out of school hours, from three to five hours a week are devoted to games. This arrangement has been found satisfactory.

Every school, I think, should have some form of physical training carried out in connection with school work. Each pupil should have a reasonable amount of exercise in the week.

It would be a good thing if as many masters and mistresses as possible, both in elementary and in secondary schools, were encouraged to take an interest in physical training, and to acquire experience in this side of school life. Whether it is reasonable or not to expect masters in Scottish elementary schools to manage the whole of the physical training in their schools I am not in a position to say.

I am not clear as to the precise meaning of the words 'military drill and training.'

10,717. *By Sir Henry Craik.*—You are Rector of the Edinburgh Academy?—Yes.

Experience.

10,718. Your experience has been of a varied kind?—Yes.

10,719. You have been chiefly connected hitherto with teaching in England?—Yes, at the university.

10,720. For four years you were head of the Teachers' Training College at Oxford?—Yes.

10,721. That brought you in contact with the education in the State-aided schools?—Yes.

10,722. Then you also taught in English public schools?—No, I never taught in one.

10,723. But you are well acquainted with them?—Yes, I know a fair amount about them. I was educated in one, and I have often been in them examining them. I know a good many men in them.

10,724. Your experience is of these public schools or boarding schools?—To a certain extent it is.

10,725. In the Edinburgh Academy you have to deal with day boys?—Yes, the greater number are day boys, but there are about sixty boarders.

10,726. The boarders don't board in the school: they board with the masters in various parts of Edinburgh?—Yes, there are two large houses in which they board.

10,727. The fact of their boarding with masters gives them no sort of corporate life such as there is in England?—No, they are not quite like the houses in the big schools in England.

10,728. It is practically a day school?—Yes.

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10,729. Comparing that with a boarding school, which of the two systems is best qualified to develop the physical training of the pupils?—It depends on the class of boy with whom you have to deal. In the Academy our boys are practically of the same class as the boys who attend the big public schools in England, and the system is practically the same. We have a compulsory system of games, and I see very little difference in that matter.

10,730. What I wish you to give us information on is this: do you see anything in our Scotch system of day schools to prevent that class of secondary pupils completely overtaking satisfactory physical training?—I don't see anything, but my experience is not at all large. I have only a general notion of the secondary schools in Scotland.

Scotch Englis compa

10,731. Comparing the pupils of your present school with those in public schools that you are acquainted with in England, how do they compare with one another?—I should say that they compare very favourably with English boys. I have been struck with the Scotch boys since I came north. I have known a number of Scotch boys in the south, of course, but I have been much struck here with the school fifteens and the boys generally. They look robust and well set up and healthy, and, I think, compare very favourably indeed.

10,732. You mainly depend for your physical training on games?—Yes, outdoor games.

Drill same

10,733. The drill is a sort of *pis aller*?—Yes, drill so-called. It is merely an equivalent for boys who for some reason or other do not take outdoor games. It is hardly worth taking into account, because by far the greater number take part in the outdoor games.

10,734. Are those who take the drill rather the more weakly boys?—I don't know that I am very well acquainted with the boys that take the drill, and I cannot speak with any certainty on the matter. They are boys in whose case, for some reason or other, there is some objection to their taking part in outdoor games.

10,735. Physical objection?—Yes, very likely.

10,736. Do you think that drill has a good effect in the way of discipline, character, and moral effects?—I would very much rather have outdoor games than drill. If it were a matter of choice in a school of 300 boys between outdoor games and drill, I would have no hesitation at all in choosing outdoor games.

10,737. Is there any chance of this, that in games those who are not very strong may be shoved aside and rather put in the background?—You mean put into a wrong set?

10,738. Rather discouraged from taking a very active interest in the games at all?—Yes, there is a certain amount of danger. I have known cases of boys in some schools who have never taken part in games at all.

10,739. Was that because they were not very dexterous?—It was because they did not care for them.

10,740. For those boys military drill would have been very important?—They would not like drill any more than the games. I know boys who would object to any compulsory training.

10,741. But those are the boys who ought to have it?—Yes, and I should prefer that they should go out of doors rather than do drill indoors.

10,742. In the case of your own school, most of the boys have had experience of games by the time they come under your charge?—To a certain extent. They naturally are the kind of boys who take an interest in games. It has not always been compulsory in the Academy: it is only within the last nine or ten years that the compulsory system has come in, but of course there it is, and boys accept it as it stands. They are encouraged to play outdoors in the preparatory division, but it is not compulsory, and when they come to the upper school they fall in with the existing state of things. I think it suits them better to go out of doors and play games.

10,743. In the matter of discipline and generally,

how would your boys compare with the boys of an English school?—Excellently. I think the system has worked very well indeed.

10,744. For your class of boys you don't feel that the disciplinary effect of the drill is very necessary: they have acquired otherwise the qualities that it would give?—I don't quite know what you mean by discipline in respect of drill as compared with games.

10,745. Will they all obey the word of command and stand precisely where they are told?—We have that as well in our school: we have a mixture of both. All the boys do exercises in the gymnasium at word of command.

10,746. You don't rely altogether on outside games even in your school?—No.

10,747. Turning back to your experience in the training of teachers for State-aided schools, do you think that drill is more necessary in the State-aided schools for the larger number of children than it is in a school like your own?—It is a question as to whether you should have drill or outdoor games.

10,748. Yes?—I would rather have outdoor games if I could get them.

10,749. But in the large State-aided schools, do you not think that probably games will be less possible than in a school like yours?—Yes, but I would rather have drill if nothing else is to be had. I think that there should be a certain amount of drill in every school.

10,750. In the Training College in Oxford, were the teachers instructed in the particulars of drill?—No, but they probably will be. A new arrangement is coming in—in fact, I was engaged in arranging that with the Board of Education as well as I could when I left. The University Day Training Colleges are struggling societies, but I am very glad that these day training colleges have started, because it will encourage teachers to look into these matters. I always tried to encourage our men to take an interest in the matter of games, to join the volunteers if they could do nothing else.

10,751. You are speaking of teachers for State-aided schools?—Yes, teachers for elementary schools. *Mr R. Carter M.A.* 16 Sept. '02.

10,752. Summing up, you think that the day school is certainly qualified to give as good a physical training as the boarding school is?—Yes, that is, if you have boys going on to seventeen or eighteen years of age.

10,753. You find that although you depend generally in your own school upon games, yet you supplement that to some extent in the case of all your pupils, and to a larger extent in the case of a few of your pupils, by physical exercise and drill?—Yes, it is all part of the regular curriculum of the school.

10,754. Your experience as a trainer of teachers for elementary schools leads you to think that in elementary schools drill is even more essential and should bulk more largely than in your school?—That is so. Drill: essential in elementary schools.

10,755. I mean to say that in the State-aided schools the drill would be a more important part than in your school?—Yes.

10,756. We have heard a good deal in regard to other schools about the importance of having a medical inspection. Do you have any such inspection in the Edinburgh Academy?—No, we have no medical man attached to the school. Medical inspection.

10,757. Don't you think that it is an important thing in connection with physical training that there should be some medical inspection?—Yes. I have known instances of boys overstraining themselves, but not in the Academy. I think it would be a very good thing to have some medical inspection.

10,758. You think that there would be no objection to that being done in a day school?—No. Of course at the Academy it is not absolutely necessary to have a medical officer attached to the school, as we can rely on parents taking proper care of their children, but in most schools it would be a good thing.

10,759. Certainly in schools where pupils came from homes where there was less attention?—Yes.

The witness withdrew.

Mr John Macpherson, examined. *Mr J. Macpherson.*

10,760. *By the Chairman.*—You are Chief Constable of Perthshire?—Yes.

I have served in the Perthshire police for over forty years—sixteen years as chief constable.

The population of the county (excluding the city of Perth) is 90,383, and of that number about 3500 are young lads ranging from fourteen to eighteen years of age. Of these, 1900 are employed as farm-servants and labourers, 1000 as tradesmen, and 600 as clerks, shopkeepers, etc.

Speaking generally, the youths of Perthshire are well behaved and comparatively free from serious criminal offences, and only a very few are idle, worthless characters.

It is the case, however, that young farm-servants and labourers congregate on the Saturday nights in the neighbouring villages, and often indulge in more drink than is good for them, and this leads to high words, swearing, etc., with the result, when in this state, they create disturbance, and sometimes throw down walls, etc., out of pure, wanton mischief.

This class of youths (farm-servants and labourers), being generally tired at night, do not take much advantage of continuation classes.

With very few exceptions, the farm-servant is not taken up with educating himself, and for physical exercise considers he has sufficient muscular development in the course of his day's work.

Then youths employed as clerks, tradesmen, and shopkeepers, and residing generally in the towns and villages, are practically a different class. They are also free from criminal offences of a serious nature, but some of them are given to petty fruit and turnip stealing, etc.

They are taken up with cricket and football in the summer evenings, and in winter, where reading rooms and continuation classes are available, these are fairly well attended.

The language and general manners of this class are decidedly above that of the agricultural class, but, on the other hand, they indulge in smoking cheap cigarettes and reading trashy literature, which must have a pernicious effect on their moral as well as physical condition. Manners: smoking: ice-cream shops.

A great temptation to the youth of our villages is ice-cream shops, where cheap cigars can be had, and billiards, bagatelle, and other games indulged in up till midnight.

The damage done to the youths by contact in these dens is fraught with fears for their conduct in later years.

Legislation for the better supervision of these shops is urgently required—particularly as to the sale of cigars—and all such places should be closed same hour as public houses, and wholly closed on Sundays.

The smoking of cheap cigarettes and cigars, and the very prevalent and growing custom of making a diet of tea, bread and butter, instead of porridge and milk, must have a deteriorating effect on the health of young people, and I think an effort should be made to open their eyes to the pernicious effects of such practices.

Then something could be done in the way of promoting healthy outdoor exercise and recreation for young people.

Personally I am strongly in favour of every youth in the land being versed in military drill. Military drill.

It would be beneficial, bodily and mentally, and help to make our youths more fit for their future career in life.

It would improve the health, promote steadiness, obedience, and smartness, and would, further, be a pleasant and interesting recreation.

Mr J. Macpherson.
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I think drill should be a part of a boy's education, that he should attend continuation classes after he leaves school, up to the age of seventeen or eighteen, and then become a volunteer. Unfortunately, many people think that military drill savours of conscription and militarism, and I fear the making of it compulsory would be loudly resented.

Continuation classes: attendance at to eighteen desirable: well attended except by farm servants.

As a general rule continuation classes are well attended by the youth of towns and villages, but not by farm-servants.

Recognising, therefore, that the farm-servant won't attend school, something could be done in the way of making the school come to him, and with a theme to interest him.

I would suggest that the important subjects of agriculture and forestry be placed in front of him by competent teachers, and, to stimulate the interest, hold out prizes of pecuniary value to be competed for at the end of each session. Further, certificates and diplomas could be issued, and thus enable him to reap the benefit of his attendance at these classes by enhanced pay, consequent on his holding such certificate or diploma.

This system could be made to apply to all trades, and young men would then strive to secure the certificate or diploma applicable to their trade or business, and thus ensure for themselves advanced positions in their particular employment.

A gymnasium for ploughmen would be of no value—their employment gives them ample muscular exercise.

On the other hand, for clerks, shopkeepers, etc., some form of muscular drill is absolutely necessary, and this again would require to be popularised by competitions and rewards, otherwise attendance could not be secured, nor a high standard of muscular development attained.

Voluntary system advocated.

In my humble opinion any scheme that may be devised, if success is to be assured, can only be a voluntary one, combined with substantial gain to the parties aimed at.

10,761. You seem rather against the idea of compulsion in any way?—That is so.

10,762. Is that from what you think yourself or from what you think would be thought by the parents?—From what would be thought by the parents.

Hooligans and loafers unknown.

10,763. You have no experience in the county of Perth of what are called the hooligan class?—No.

10,764. Nor even the loafer?—No, he is unknown with us.

10,765. There are none of that class in the county or in any of the small towns over which you have control?—Very few.

10,766. Most of the crimes in your county are due to drink?—Yes.

10,767. As a general rule, there are more young people who are occupied than not?—Yes.

10,768. Consequently you don't see any special use for giving physical employment to those between the ages of fourteen and eighteen?—So far as the farming class is concerned, I think they get plenty of exercise, but I think that the other class, such as tradesmen, shopkeepers, and so on, should get more. I think it is important that something should be done for them.

10,769. You also think that the continuation system itself is not sufficiently interesting to attract young people unless there are prizes, or something else, to be derived from it?—That is so.

10,770. You have been so long in the county of Perth that you have not had much practical experience of other places?—That is so.

Physical education up to eighteen.

10,771. You are not opposed to giving a certain amount of physical education to every child?—I would certainly do that.

10,772. You would give it to every young person up to eighteen years of age?—Clearly.

Cigarette smoking: legislation necessary.

10,773. Have you any advice to give as to how cigarette smoking and things of that kind might be put down?—There would require to be legislation. I do not think it could be managed otherwise.

10,774. You think that it is very much against the health of the average child?—Yes. It must be very bad for a young man to stay in one of those ice-cream shops till all hours of the night.

Mr Macph
16 Sep

10,775. *By the Hon. Thomas Cochrane.*—Are these ice-cream shops allowed to sell tobacco?—They sell cigarettes.

10,776. They get a licence?—Yes.

10,777. And they are allowed to keep open till a late hour?—Till midnight.

10,778. Is there any drinking in them?—There is no strong drink, they have lemonade and such drinks.

10,779. Have you seen the report by Colonel M'Hardie, the Chairman of the Prison Commissioners?—I have not read it yet.

10,780. He gives some interesting information about crime, and his opinion is that the right time to prevent crime is when the children are young, that they should be taken then and trained?—Clearly.

10,781. If a man is an adult criminal there is not much hope of reformation?—There is very little hope.

10,782. He says that they should not only be protected but should be properly educated, and that in a generation or two an improvement would be effected. Do you agree with that?—Yes.

Trainin moral a physica benefit.

10,783. The moral and physical training would be of benefit to the children?—Yes.

10,784. You would endeavour to get that by means of persuasion?—Yes. That is the difficulty.

Compul would b resente

10,785. You think there would be resentment if these young lads were compelled to go to the continuation classes?—Yes.

10,786. Who would resent it?—Themselves.

10,787. Would their parents resent it?—I think that if the parents fully understood the advantages that would arise, they would not resent it.

10,788. If they knew that it was for their children's good, they would not resent it?—That is so.

10,789. It would be a means of keeping them from getting into evil habits?—Yes.

10,790. You have had a good deal of experience with farm servants in Perth?—Yes.

10,791. They are not very bad as on the whole?—No.

10,792. They have their faults like every class?—Yes.

10,793. Their fault principally is that they don't always profitably spend the whole of their time?—That is so.

10,794. It might be difficult after their labour is over to get them to attend continuation classes at a distance from their homes, but you said that something might be done by making the instruction go to them?—Yes.

Continu classes farm servants travellir instruct

10,795. You might have some travelling instructor to go round the different villages?—Yes.

10,796. What should he teach them so as to interest them?—In the first place, agriculture.

10,797. That has been tried by some county councils?—Yes. It has been tried in Perthshire, but only in about ten places.

10,798. Did it meet with any measure of success?—Fair.

10,799. How many attended?—164.

10,800. What class did they belong to?—I should say that they were all farm servants.

10,801. There was no compulsion in that?—No.

10,802. They attended from a desire to improve themselves in their profession?—Yes.

10,803. Did any of them become farmers afterwards?—I do not think there is quite sufficient time for that yet.

10,804. Have you any information as to their subsequent conduct? Are they better workmen, or have they come under you?—I could not say anything about them.

10,805. The fact that they did not come under your notice you take as being favourable?—I should say so.

10,806. If they did come under your notice, then it would generally be for some fault?—Yes.

Voluntar scheme preferred

10,807. In your opinion any scheme, if success is to be gained, must be a voluntary one?—Yes.

10,808. You don't place any confidence in com

pelling these young fellows to attend?—I am strongly in favour of something being done, but I think that a fair trial should be given to the voluntary system, and if it was seen that it did not work in the course of two or three years, then strong measures should be taken.

10,809. You would first rather persuade them to attend by making the continuation classes attractive, and then if that did not succeed you think that the time would have come when they should be compelled to attend?—Yes.

10,810. *By Sir Henry Craik.*—Do your police have anything to do with the city of Perth as well as the county?—No.

10,811. You have nothing to do with the railway station at Perth?—No.

10,812. From what class do you draw your constables?—Generally from the farm-servant class.

10,813. Are they amenable to discipline, and do they turn out efficient members of the force?—Very good indeed.

10,814. The authority and discipline improve them very markedly?—Yes.

10,815. You speak in your evidence of meetings on Saturday nights when there is more drink than is good for those who take part in them, that there are high words resulting in disturbance and damage to property. I presume that that brings a large number of the youth of Perthshire under the notice of the police?—Yes.

10,816. And perhaps they have to suffer for it?—They do.

10,817. Do you think that compulsion being adopted at fourteen years of age, which would give them some sense of discipline, of their responsibility, of the necessity of respecting others and respecting property, would not be a very much less evil than the opposite result, which is to bring them under the penalties of the law?—I am of strong opinion that it would be better in the first place to try the voluntary system.

10,818. But we have tried it very largely. There have been agencies all through the county of Perth, and it has just resulted in producing the circumstances you describe, and then you have to deal with them in a way which marks them very disagreeably for the rest of their life?—Yes.

10,819. Do you think that if those responsible for those youths understood properly the alternative, they would not be willing to have a certain compulsion which would prevent those errors rather than penalise them?—I am of strong opinion that the people of our country would resent compulsion.

10,820. Is it not the case that in older days a certain duty was recognised on the part of every inhabitant of the country of going through a certain amount of physical exercise, and fitting himself as a citizen?—Yes, and I am strongly in favour of every young man being thoroughly drilled. *Mr J. Macpherson.* 16 Sept. '02.

10,821. If you could get over this prejudice, you have no feeling that the compulsion would do any wrong to anyone to whom it was applied?—I think it would do a world of good.

10,822. All you fear is public prejudice against it?—Yes.

10,823. *By Mr M'Crae.*—You say that as a rule the continuation classes are well attended by the lads of towns and villages. Are those evening classes very general throughout the county of Perth?—Yes, we have classes held in sixty-four parishes. Continuation classes: no physical instruction given.

10,824. Is physical training part of the education that is given?—No.

10,825. It is all mental?—So far as I am aware, it is.

10,826. *By Mr Shaw Stewart.*—I would like to ask you about legislation for preventing smoking of cheap cigarettes. What would be the most practical way of dealing with that?—Have them licensed the same as public houses. Cigarette smoking.

10,827. And not allow children under fourteen to buy cigarettes?—Certainly.

10,828. Do you think that if cigarettes were only sold in packets of twelve as the lowest amount, that would have any effect?—It might.

10,829. *By Sir Thomas Glen Coats.*—You have not said anything about children of school age. Have you much experience of the children of school age?—I am glad to say that we have not much trouble with children under fourteen.

10,830. I don't mean experience as regards the law, but your own experience. When children leave school about thirteen or fourteen, do they at once find occupation?—The farming class just get work at the farms.

10,831. Just when they leave school?—Yes, and other young children join trades, and so on.

10,832. Do you think that physical training during school age would induce them to carry that on voluntarily afterwards?—Yes. Physical drill desired for school children.

10,833. If they got the taste for it?—That is so. I think that if the advantages of physical training were brought under the notice of parents, employers, clergymen, and teachers, it would do a world of good.

10,834. You do not think that the physical exercise that they get in walking to and from the school is sufficient. You think it would be better if they got a regular training in drill?—Certainly.

The witness withdrew.

Mr Alexander Porter, examined. *Mr A. Porter.*

10,835. *By the Hon. Thomas Cochrane.*—You are Chief Constable of the counties of Roxburgh and Berwick?—Yes.

10,836. You have handed in a statement of your evidence, which you will please read?—

With reference to this subject, my attention has, from time to time, been directed more to the effect which athletic and military training has on the manners and conduct of youths than to the effect of such training on physical development, and I am convinced that if carried out under conditions suitable to the age and physical capacity of the pupil, such training is highly beneficial in every respect, and that we cannot have too much of it. There is, however, to my mind, a still more important element in the education of youth than athletic or military training, and which should, I think, have precedence in every school, namely, the inculcation of good manners and encouragement of good conduct both inside and outside of the school. This duty is unfortunately in too many cases entirely neglected by parents, who, in sending their children to school under the pressure of the School Board officer, seem to consider themselves relieved of all responsibility for the training of their children either in morals or manners, but teachers in public schools are too fully occupied in complying with the requirements of the Education Code, in squaring the standard of education with the age of the pupil, to give the necessary time and attention to the discharge of this important duty. The result is that a large proportion of children are turned loose without any clear perception of right and wrong, and depend on such influences as may accidentally affect their future course of conduct. This is, in my opinion, the outcome of the present system, which permits of children of tender years being sent to a Board School, in many cases to get them out of the way at home while the mother is employed at household work or in trying to add by her labours to the family income. There should be an age limit under which children should not be subjected to the process of cramming prevalent in infant departments of Board Schools, and there should also be a limit to the hours of attendance. From ten to three or four o'clock is much too long for a child of say ten years of age to be subjected to the strain of mental training, even when relieved by intervals of outdoor recreation. The effect of this continuous mental strain is shown by the Infants' hours of attendance should be limited.

Mr A. Porter. 16 Sept. '02.

washed-out appearance of children by the time the annual holidays come round. The hours of teaching should be varied by intervals devoted to athletic exercises under the personal direction of qualified teachers, in order to initiate in the children habits of civility, courtesy and discipline.

Military training after twelve. Under twelve training by ordinary school staff.

Military training and exercises are excellent things, and might be applied with great advantage to pupils of twelve years of age and over, but for children under that age every branch of training should be conducted by the staff of the school, every member of which should be qualified by training to impart instruction in elementary physical drill. Military drill instructors are not, in my opinion, so well adapted to impart instruction to juniors as they may be to more advanced pupils. The purely military system is too mechanical, and tends rather to cramp than to develop individual intelligence.

My interest in the subject, however, comes in at a later stage, when the good or evil effect of moral training comes into play through the independent action of the child, and it is at this stage that the effect of parental and school training can be distinguished. As there is a clearly-defined distinction in the home training, so there is an equally marked distinction in the pupils of different schools, not always to be attributed to the class of children, but more especially to the system of training carried out in the school. There is a marked difference in the habits of boys in burghal and in country schools. The first thing the former does is to learn to smoke cigarettes, a vicious habit which ought to be repressed by every possible means. The country boy, on the other hand, takes to bird-nesting and rearing of birds, beasts, etc., a most laudable and instructive diversion which ought to be encouraged—the protection of wild birds notwithstanding. I have never known a boy go astray who groped his way through natural history. The town-bred boy, however, has not this outlet for his natural instincts, and perforce is confined to his cigarettes, football, and occasional cricket, and is unfortunately always under the influence of a few evil-disposed and vicious companions. Football and cricket are excellent amusements, and are most useful as a means of physical training, if conducted under proper control, otherwise they generally lead to outbreaks of passion and foul language, which are not always confined to the field of action, but become habits not easily eradicated.

Town and country boys: differences.

Boys' Brigades are, I think, a most successful organisation for the training of youths, mentally and physically, and when properly conducted include every kind of sport and amusement—football, cricket, and excursions—which a boy requires until he begins the serious business of earning a living, and even after that period—until he joins a Volunteer corps. The most successful Boys' Brigades I have known were officered by civilians who had been trained in the Volunteers. The effect of the training on the boys is surprising—smart and intelligent in action, their manners and conduct improve rapidly, and a Brigade boy can always be picked out anywhere and in any company by his manly and respectful bearing. Unfortunately such brigades require money to maintain them, and although everybody admires and approves of them, yet somehow voluntary subscriptions dwindle down and they have to be given up. This result is most unfortunate, as these brigades pick up boys at a critical age and do an incalculable amount of good.

Boy's Brigade commended.

Juvenile delinquency does not bulk largely in my counties, and while a number of youths are annually dealt with in the criminal courts for trivial offences, such as pilfering gardens or damaging property, the outcome of thoughtlessness or exuberant spirits, the number so dealt with is insignificant. Where children do go wrong, their wrong-doing can be traced in most cases to neglect of home training through the ignorance or vicious habits of the parents. We have few, if any, of the class of either parents or children from which spring the habitual criminal, and all that is required is that at home and at school the children should be so controlled and directed as to prevent them drifting into vicious habits.

Juvenile delinquency insignificant.

The number of convictions recorded against juveniles between the ages of fourteen and eighteen years during the five years ending 1896 was—in Roxburghshire, 127 males, 12 females, total 139; and for the five years ending 1901, 188 males, 7 females, total 195.

In Berwickshire for the same periods the number of convictions recorded for the first five years was 88 males, 7 females, total 95; and for the next five years 89 males, 5 females, total 94.

The greatest contributing factor to juvenile delinquency is in one word 'drink.' Youthful delinquents are either the offspring of drunken parents whose home influences have been bad and home comforts none or the result of foolish indulgence in intoxicating liquors by ignorant youths, unaware of the danger of such indulgences. Against this record of delinquency should be set the very large number of cases in which even children of tender years hand over to the police valuable property found by them, and which is afterwards restored to the losers, much of which, such as money and jewellery, might have easily been concealed and appropriated without detection.

In the constabulary service the most difficult and delicate part of the training of recruits is teaching them civility and manners. Recruiting is in Scotland limited to the age of from twenty-one to twenty-five years, and the young recruit carries with him into the service the accent and mode of speech peculiar to the district to which he belongs, and to which he clings as if it formed his sole claim to independence, and his affirmative 'Aye' and negative 'No,' or its northern equivalent 'Na,' is as difficult to eradicate as is his uncouth manner and bearing. There are, however, fortunately notable exceptions to this class—men who have served in the Volunteers or who have been fortunate enough to have been in a Boys' Brigade. The military service is more fortunate in obtaining the raw material at a more pliable age, and association in the barrack yard helps to establish the more euphonious 'Yes, sir' and 'No, sir.' In rural districts the police recruit has not the advantage of association to help him, and his training depends on the vigilance of his superiors.

Const. training recruit

In 1867, when Her late Majesty the Queen visited the border district, in controlling and regulating the large crowds assembled to greet her at the various towns she visited, I observed that any order given by me was obeyed promptly and with becoming grace and alacrity by men who had been in the army or who had served in the volunteers, while many of those who had not the advantage of such training had to be restrained under strong persuasion and pressure. Subsequent observation and experience of large crowds have confirmed the impression then formed, that military training and discipline could be depended on in the maintenance of order on public occasions. In 1891 I had some conversation on this subject with the Earl of Minto, who was then brigadier of the southern counties, and in consequence submitted the following memorandum to his lordship, and which has since been perused and favourably considered by several military officers of distinction and experience; but nothing has been done to give effect to my suggestion, which, however, I still consider to be both practicable and desirable as affording means of valuable instruction to a class of young men who have difficulty in filling up spare time, and which is generally spent in gossiping, loafing, and a little rowdyism, with a pretty free use of coarse language.

Mili train valu

Notes on the Volunteer System.—(1) The Volunteer movement in Scotland has greatly improved the moral and social condition of the people. The improvement is most marked in cities and towns, where the influence of the movement in promoting order and submission to constituted authority has been recognised by all concerned in the control of crowds of people on public occasions. This influence of discipline, though limited by the paucity of the

Vol syst

men who have undergone military training, has been distinctly observed even in country crowds.

(2) In the earlier years of the movement almost every village and hamlet contributed its quota to the district regiment or battalion, but that state of matters does not now generally prevail.

(3) Considering the beneficial effects which discipline and military training have had on young men in towns, it would be of great advantage to have them extended to country districts. There are large numbers of young men employed as mechanics in country villages, and a larger number employed as labourers on farms, who have a good deal of spare time in the evenings which they have no means of profitably employing, and to whom a weekly or bi-weekly parade for drill and instruction in military duties would be a positive gain, and these parades would be largely taken advantage of as an agreeable means of filling up spare time.

(4) Seeing that young men in villages and at farm places have not sufficient time, however much inclined thereto, to attend at stations where there are Volunteer drill instructors, it is suggested that such instructors might attend at villages or central points in country districts at such times in the evening as would be most convenient for mechanics and farm-servants to attend for drill. This might be done without increasing the number of such instructors or the general expenses to any appreciable extent.

Besides increasing the strength of the Volunteer battalion, it is believed that such an arrangement would tend to popularise service in the regular army.

10,837. How long have you been Chief Constable of Roxburgh and Berwick?—I have been Chief Constable of Roxburghshire since 1884, and of Berwick since 1894. I was formerly Depute Chief Constable of Roxburghshire. I have served in Roxburghshire for forty years.

10,838. You have had a good deal of experience in those counties?—Yes.

10,839. You have taken an interest in the physical training of the children?—Yes.

10,840. You have found that the advantages of physical training were very apparent in improved manners and morals?—Yes, morals especially.

10,841. These improved morals are a valuable asset to the children in after life?—Yes, not only to themselves, but also to men like myself who have to preserve public order, because I find that when they are thoroughly disciplined they will readily do what they are asked to do.

10,842. They are better men in every way?—Yes.

10,843. Does the same thing apply to the girls?—Yes.

10,844. You have made some strictures on the Board Schools. You consider that some of the hours of teaching should be devoted to physical work?—I think there is too much given to mental work and too little relaxation. A child goes to school about 9.30 in the morning and has no relaxation till between three and four o'clock, except an hour for meals, during which the children run home and swallow their food too hastily. I don't see any benefit that can arise from cramming at such an early stage.

10,845. In regard to training, you rather object to military drill instructors?—I prefer a civilian, for this reason, that I think the civilian has more sympathy with the children than your strictly trained military drill instructor, who is, after all, very much just what the army has made him—a machine.

10,846. Of course the whole system of military drill has very much changed of late years. There is much less of that purely mechanical drill than there used to be?—The little I have seen of it seems to be changed in the wrong direction.

10,847. You then find fault with boys who smoke cigarettes. Can you suggest any means for doing away with that?—Nothing except parental control, and I also think that the school teachers should put their foot down on it.

10,848. Have you any ice-cream shops under your jurisdiction?—Yes.

10,849. Are they centres of cigarette smoking?—They are centres of everything that is evil. *Mr A. Porter.* 16 Sept. '02.

10,850. You speak of football as being a good form of physical exercise, but you rather object to the foul language that is used?—I think that football is an excellent thing both for children and adults, but for children especially it should be carried out under proper control. Football.

10,851. It is more the language of the spectators that you object to?—Yes, but the children are apt to do just as their elders do.

10,852. You speak very favourably about the Boys' Brigade?—Yes, I do.

10,853. You find in your own service that the manners of your recruits are sometimes capable of improvement, and that after being under your charge there is a considerable improvement?—Yes.

10,854. You wind up with some general suggestions for the Commission. You think that the farm labourers have a good deal of leisure time in the evenings?—Yes. Farm servants.

10,855. While not prepared to go to continuation classes, if some means of instruction were brought to their door they would be ready to avail themselves of it?—Yes, I am sure they would. It would give them something to do.

10,856. The continuation classes might include instruction in agriculture and physical training and other subjects likely to interest the farm labourers?—Yes.

10,857. If that was brought to their doors you think that the farm labourers would avail themselves of it?—Yes, because they have a good deal of spare time in the evenings.

10,858. *By Sir Henry Craik.*—There are some points I should like to ask you about. You think that compulsory school education has diminished the strength of parental responsibility?—I am clearly of that opinion. Compulsory education: effects on parental responsibility.

10,859. Would your belief in that lead you to oppose compulsory education in schools?—Do you mean physical?

10,860. No. Would your conviction of the evil that it has done in lowering parental responsibility lead you to be inclined to abolish compulsory education?—I would not go that length, but I think that the school teacher should go a long way in filling up the gap.

10,861. We will come to that presently. How would you bring the responsibility of the parent home to him if you think he is rather losing it?—He is losing it in this way, that education costs him nothing, and he does not value it so much as he used to do in the days when my mother had to pay school fees for me.

10,862. You don't suggest that those country people with whom you deal would be able to look after their children all day. The help the school gives them must be considerable in that way?—Yes, but I think they throw the responsibility on the school at too early an age of the pupil. It is rather painful to see a little toddling thing being forced screaming to school in the morning.

10,863. Do you really find that?—Yes.

10,864. Is that really your experience, that the smaller children in country districts have to be forced?—I am speaking more now of the burghal than the country schools. I do not think they go to the country schools at such an early age.

10,865. At what age do they go?—Three years of age is very common.

10,866. If they go at three years of age, that is voluntary?—That is so.

10,867. That means that the parent thinks that the child would be better looked after at school than he would be at home?—That is what I complain of.

10,868. Do you think that it is better that if the parent is occupied all day the child should go into a nice airy room where there is an infant department and where it can be looked after by a teacher?—I don't think that it is good for the child.

10,869. You think it would be better to have the child rolling about at the door-step?—Why should it be rolling about the door-step?

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10,870. Who is to attend to it?—The mother.

10,871. But the mother is busy?—Not necessarily. Of course, there are exceptions, which I grant, but I am taking the general rule, and I think this relief is too much taken advantage of by the mothers, and they send their children to school to get them out of the way. I do not think that that should be encouraged.

10,872. Don't you think that sending them to a good well-lighted and well-warmed room under the charge of a teacher who is devoted to those young children is any more harmful than to roll about the feet of the mother, who is probably very busy with her work?—I have yet to discover where these well-aired, well-ventilated schools are to be found in country districts. I think you are rather dwelling upon the palatial buildings that you have in Edinburgh.

10,873. I visited and opened a school in Berwickshire which seemed to me to be just as good a school as we could find in Edinburgh?—I grant that there are good schools, and all the schools that are being put up now are first-class.

10,874. But you think that the ordinary school under the School Boards in Roxburghshire is not, in point of heating and ventilation, superior to the mass of the houses?—What I contend is that the young child would be better toddling about at home, getting fresh air and some of the kitchen smoke, which won't do it any harm.

Children under five should not be admitted into the schools.

10,875. Would you like the School Boards to close their doors to children under five years of age, and say, 'We won't admit you'? Is not that the logical conclusion of your argument?—Yes, and this being a body engaged in endeavouring to find a way of improving the physical and mental development of children, I do not think that my suggestion is wrong.

10,876. You agree to follow that logical conclusion?—Yes.

Teachers: assistant and pupil teachers not properly qualified.

10,877. You say that teachers in public schools are too fully occupied in complying with the requirements of the education Code to give the necessary time and attention to the discharge of this important duty of training the children in morals and manners. Is it not part of the code that the children shall be so trained?—Yes, but I go further than what I have said in my evidence, and I say this, that the teachers you are bringing forward as elementary teachers in public schools have not got the training themselves. They are not trained physically.

10,878. That is to say that the Code is not being carried out?—What I want to say is that I do not think that those pupil teachers and assistant teachers should be appointed until they are so qualified.

10,879. You do not think that they are properly carrying out the requirements of the Code?—I don't know. I am not there to judge.

10,880. But you don't think they are carrying out the attention to the training of the children in manners and morals which the Code requires?—I don't think so.

10,881. Have you, as Chief Constable, any reports as to the schools from which juvenile delinquents come?—I have not.

10,882. You are aware that under a recent Act you can obtain these statistics?—I am aware that under the Youthful Offenders Act I am obliged to keep a record.

Juvenile delinquents: recent Act.

10,883. But under an Act of quite a recent Session returns of that sort are made, and the police authorities may furnish these to the school authorities. Have you ever attempted in dealing with these youthful delinquents to trace them to their schools and co-operate with the teachers?—I am bound to do that under the Youthful Offenders Act, but before that I had no instructions on the subject.

10,884. You think, however, that that is a useful provision?—I am satisfied that one Chief Constable at any rate has paid a great deal of attention to it.

10,885. It was his suggestion that this was put into the Act?—I am familiar with what Captain M'Hardy of Ayrshire has done with youthful offenders, but we do not have the same class of youthful offenders.

10,886. Don't you think that a means of bringing home this duty to teachers is now in the hands of the police authorities, who can trace back these offenders to their school and communicate with the school authorities. They can find out what the schools are which are chiefly responsible for these youthful offenders, and bring home the responsibility to them in that way?—I am aware that I must do that now, but hitherto I had no instructions on the subject, and we had such a small percentage of juvenile offenders that there was no record of that sort kept.

10,887. Do you think that as a means of helping the carrying out of work of this sort, a certain amount of physical training would be very important?—Clearly. I still maintain that the teacher ought to be qualified to impart that instruction. Of course, I am aware that in many schools a military drill instructor is brought in, but I think that that is the duty of the teacher.

10,888. *By Mr Alston.*—You referred to the Boys' Brigade, and, as Chief Constable of two very important counties in Scotland, it is very gratifying to know that you have formed such a high opinion of their work in the country. Have you had much close observation of these Boys' Brigade companies?—Yes. I have tried to associate myself with these companies, to give every encouragement I could, seeing the beneficial results that followed.

10,889. To what do you attribute these beneficial results in companies of the Boys' Brigade?—First of all, to the athletic exercise and training, the habits of discipline, and the inculcation of good manners. These are the principal points. In Jedburgh we had a most successful Boys' Brigade. I live there, and I have associated myself with that Brigade. The boys were mixed; they were not all of one class, and I think that that helped the less fortunate boys in imbibing the instruction. There was no encouragement held out to these boys beyond the discipline and the drill, and a good deal of human sympathy.

10,890. Of course, you are aware that this is a religious movement to begin with?—This was conducted on non-religious principles.

10,891. Then it could not be a company of the Boys' Brigade?—The churches were associated with it. What I mean is that the clergymen of the town took no part in it except lending their sympathy and support.

10,892. It must have been attached to some body. Was it a Jedburgh company?—Yes.

10,893. It must have been attached to one church or several churches?—It was attached to all the churches.

10,894. It was a union company?—Yes.

10,895. It does not exist now?—It exists in name, but not otherwise.

10,896. Why?—For want of funds.

10,897. What funds were required to carry on that company?—I think it took £25 a year to carry it on.

10,898. Do you remember how that money was spent?—They spent about £25 in getting up a band.

10,899. That may account for the company going to pieces?—Perhaps it does, but the community are all the better for the band, because we have the residue. I think that the boys also have greatly benefited; many boys trained in that band have gone to other towns and found good situations as musicians.

10,900. Still it was unwise to risk the company on account of the band?—Perhaps it was, but you cannot bring experience to bear on what was only an experiment.

10,901. Is that what you mean when you say, 'Unfortunately such brigades require money to maintain them, and although everybody admires and approves of them, yet somehow voluntary subscriptions dwindle down and they have to be given up'?—Yes.

10,902. That occurs in very few cases?—Unfortunately it occurred in this case.

10,903. This is an instance of a good company which ceased to exist?—Yes.

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10,904. You say, 'The most successful Boys' 'Brigades I have known were officered by civilians 'who had been trained in the volunteers.' Do you understand that, generally speaking, the officers of the Boys' Brigade are not civilians?—In some instances Boys' Brigades are drilled by military instructors.

10,905. That is quite the exception?—But it is done.

10,906. As a rule the officers are civilians. In Scotland a number of the officers have been in the volunteers, and the employment of army soldiers outside the company is avoided as much as possible. It is only when they cannot do without military instruction that they call in their help?—I think the Boys' Brigade are all the better of a little military instruction. Of course, I am not familiar with the rules.

10,907. When all is said and done, you thoroughly approve of this movement?—Yes.

10,908. Your experience is that it has done an immense deal of good?—Yes, immense.

10,909. *By Mr Shaw Stewart.*—Do you think that any legislation in regard to cigarette smoking would do any good?—I don't think so. I think it must be left to moral suasion.

10,910. You think that physical training, if properly carried out, would help to stop foolish indulgence in intoxicating liquors by youths, that exercising their bodies in physical exercise would have a distinct effect in after life in the direction of temperance?—Yes.

10,911. Do you think that physical exercise in schools should be accompanied by occasional lessons on the benefits of physical training?—Yes.

Continuation classes: not properly taken advantage of: no physical work.

10,912. *By Mr M'Crae.*—You have very decided opinions as to the amount of drill given in our Board Schools, and you feel that they should have more time devoted to physical exercise. Have you turned your attention at all to the question of evening continuation classes?—No, except thus far, that they are not taken advantage of to the extent that they might and should be.

10,913. Is that general over the two counties under your supervision?—Yes.

10,914. What do the boys do after they leave school at fourteen years of age; do they find employment at once?—Generally. They are at first put out as message boys or to do something else.

10,915. There is not much opportunity for their loafing about after they have left school?—No.

10,916. What do the girls do after they leave school?—Some of them become shop assistants and so on. In Roxburgh-shire we have a considerable amount of textile manufactories, and the mills take up a lot of the girls.

10,917. Is there any physical training in those evening schools that you speak of?—There is none.

The witness withdrew.

Mr H. Rippon Seymour.

Mr H. Rippon Seymour, examined.

10,918. *By Mr M'Crae.*—You are Gymnastic Instructor at George Watson's College, Edinburgh?—Yes.

10,919. State your school and university training, your former experience, and the time in your present position?—I was educated at the City of London School and Haysman's Anglo-French College, and have attended classes in anatomy and physiology for two years whilst in Edinburgh.

I have served ten years in the army, five of which were as a gymnastic instructor, leaving with the rank of sergeant.

I have extra first-class certificates from Aldershot in gymnastics and fencing, and a first-class army certificate in education.

Since leaving the service, I was for a time employed as director of the Dundee Physical Training College, and for nearly eight years have been in my present position at George Watson's College.

I have at different periods been instructor to the Edinburgh Harriers Gymnastic Club, the Queen's Edinburgh Volunteers, the Warrender Private Baths Classes, the Alloa Bath Classes, etc., etc., all of which I resigned to manage my present academy of fencing and physical training.

I have therefore nearly eighteen years' experience of drill and general physical training.

I am an official judge to the Scottish Amateur Gymnastic Association, and have officiated as judge at gymnastic contests in England, Scotland, and Ireland.

I am the author of a well-known work on physical training, which is largely used by army instructors, and at the gymnasia at Aldershot, Sandhurst, and the Curragh Camp.

10,920. (*a*) What is the class of your school and scholars? (*b*) Give the numbers and ages of the pupils?—(*a*) George Watson's Boys College is, I believe, the largest day secondary school in the United Kingdom, with an average attendance of nearly 1700 boys, who belong mainly to the middle and upper-middle classes. (*b*) The ages of the pupils range from four to nineteen.

10,921. Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.*, football, cricket, hockey, etc. (1) Are they organised and supervised by masters? (2) What is the size of the playing field and its distance from the school?

(*b*) Drill: how taught, and by whom? Gymnastics, free or applied? Is there a gymnasium attached to the school?

(*c*) Athletics, *e.g.*, jumping, running, etc.

(*d*) School runs, paper chases, etc

(*e*) Handicrafts.

(*f*) Voice training.

(*g*) Cadet corps, rifle shooting.

(*h*) Swimming. (1) Is there a swimming bath attached to the school?

(*i*) Fire Brigade Corps.

(*j*) First aid and ambulance?—(*a*) In connection with the school there are clubs for practically every game or sport, *e.g.*, football, cricket, golf, cycling, swimming, etc., all of which are under a ruling body known as the Watson's College Athletic Club. This club is probably one of the strongest athletic bodies in Scotland, and practically every boy at school belongs either to one or other branch of it. (1) One of the masters acts as secretary to the club, and takes charge of football or cricket teams when playing from home. The club is in the hands of a committee of former and senior pupils, and the headmaster has, of course, a voice in the direction of affairs in the capacity of president. (2) The playing field is a large one, of some acres in extent, provided with a handsome pavilion, containing lavatories, dressing-rooms, etc., and is situated in one of the healthiest parts of the city, within a mile of the school. The school itself is situated on 'The Meadows,' in which the boys play during recreation and lunch hours.

Games: athletic club.

Organisation

Playing field.

(*b*) Drill and gymnastics—both free and applied—are taught by me, with my assistant, in an excellently equipped gymnasium, which is attached to the school.

Drill and gymnastics.

(*c*) Athletics, as distinct from physical training proper, are catered for by the school athletic club, though jumping is taught in the gymnasium. Prizes are awarded annually for jumping to seniors and juniors, and I might here mention that for two years past a 'Watson's boy has won the junior championship for high jumping, open to all Scottish schools.

Athletics.

(*d*) There is not a weekly 'school run' or paper chase, but the Watsonian cross-country club is open to present as well as former pupils.

Runs.

(*e*) Handicrafts, 'slojd,' etc., are not taught.

(*f*) All boys in the elementary and junior sections of the school are taught singing by two visiting masters.

Voice training.

(*g*) There is not at present a cadet corps or rifle

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club, but a movement in this direction is probable in the near future.

(*h*) There is a swimming club in connection with the school, which has the use of the Warrender Baths every afternoon and evening. (1) There is no swimming bath at the school.

Swimming.

(*i*) and (*j*) No fire-brigade or first-aid classes.

Time allotted.

10,924. State specifically the time allotted to these or any of them *per diem* and per week. Are any of these taken in ordinary school hours?—Half an hour, twice weekly, is allowed for physical training during school hours, and practice at the various games, according to season, is to be had every afternoon and evening after school.

Training: main branches: special advantages.

10,925. What, in your opinion, are the respective merits and relative values of the various forms of physical training?—For school use a system of physical training should be divided into four main branches, viz.:—

(1) Military drill; (2) Free gymnastics; (3) Dumb-bell exercises; (4) Applied gymnastics.

These four branches contain all that is absolutely necessary for the healthy and uniform development of the young.

Each branch has its special advantages and uses, *e.g.*:—

(1) *Military Drill* has principally for its objects the teaching of obedience and smartness, and marching tends to improve the pupil's gait and carriage.

(2) *Free Gymnastics* renders the body supple, yet strong, and assists in giving graceful movement of the limbs.

(3) *Dumb-bell Exercises* strengthen and develop the muscles, but do not of themselves give dexterity of movement.

(4) *Applied Gymnastics* should only be taught to pupils who have had a thorough course of training in the other three forms of exercise.

They induce greater precision in the movements of the body, and a ready obedience on the part of the muscular system to the will.

Each branch of physical training has therefore its special uses, and no so-called system is complete without the four branches, taught progressively, and in the order named. Free gymnastics can, however, be taught directly the pupils are able to form into lines and march into their places, after which the tuition of Nos. 1 and 2 can be combined in one lesson.

There is no one game perfect from a developmental point of view, every game requiring more or less a special set of muscles, which consequently are liable to receive more exercise than other sets. Swimming, however, most nearly approaches the perfect exercise.

Opportunities taken advantage of.

10,926. How far are these opportunities taken advantage of?—With regard to the pupils of George Watson's College, all the classes—with the exception of the two elementary and three senior—attend the gymnasium twice weekly for gymnastics and drill. Fully 90 per cent. of the boys are regular attendants, the remaining 10 per cent. being either medically excused, or take up other work at the request of their parents.

As far as possible, I insist that every pupil shall at least take drill—which includes free gymnastics and dumb-bells—unless he has a written excuse, but I am pleased to find that there are but few attempts to shirk the work; in fact, as a general rule, the boys are glad of the change of occupation afforded by physical training.

An extra class, held every day, after school hours, for half-an-hour, is very well attended, especially during the winter months, as during the summer outdoor games have actually a greater claim on the boys' own time.

Training appreciated.

Physical training is much appreciated by boys, especially when exercises of emulation are included in the curriculum.

The elder boys are perhaps more partial to the arduous exercises of applied gymnastics than to drill, which is possibly only natural.

Systematic training: benefits.

10,927. What, in your opinion, are the results of such physical training? What are the effects, moral, physical, and intellectual?—The principal beneficial results of systematic physical training are dual—

1. To the pupil. 2. To the teacher.

1. To the pupil.

(*a*) There is soon a marked improvement in physique.

(*b*) During exercise the mind receives rest, consequent on the complete change of occupation.

(*c*) An improvement in manners, greater pride in personal appearance, and more self-control.

(*d*) A gradual eradication of nervousness and nervous ailments.

(*e*) The performance of drill to music trains the ear to a recognition of time and tune.

2. To the teacher.

(*a*) The strict discipline enforced at military drill renders control of a class much easier.

(*b*) The necessity for corporal punishment is less.

(*c*) The time taken from lessons is frequently more than regained by the greater aptitude with which the pupils do their work after such exercises.

For a fuller account of the beneficial effects of physical training, see attached 'Proposed Scheme.'

System: should in three of t four main branches.

10,928. Is a uniform system of physical training in schools desirable or necessary?—In authorising the introduction of systematic physical training into schools, it would not be necessary for the Education Department to enter in minute details as to the exact movements to be performed by any class or child. It would, however, be well to stipulate that any system adopted must provide for tuition in at least *three* of the four principal branches of physical training, as noted in answer to a previous answer.

10,929. You have had considerable experience of Board Schools?—Yes.

Uniform system w latitude.

10,930. Do you think that a uniform system should be enforced all over?—Not with regard to the actual movements that are performed without any apparatus. I think the actual exercises should be left to each Board.

10,931. Would you approve of a scheme being formulated under medical advice with perhaps power to advise the different schools?—Yes. There must be some system to see that the work is done properly.

10,932. You would have a uniform system with variations?—Yes.

10,933.—You would like a certain amount of deviation from the system?—Yes.

The insertion of such an article into the 'Code' would certainly simplify matters, and leave no doubt in the minds of school managers and headmasters as to what was required of them, and would, in my opinion, eventually produce a desirable uniformity.

10,934. How, in your opinion, can the present system be improved and developed?—This is a problem to which I have given serious consideration for a number of years, and I am convinced that the solution is as follows:—

Suggestio sketch of scheme: control by State thr Departme advantag

In order that the very best and most far-reaching results may accrue both to the State and to the individual, the physical training of the people must be controlled by the State, through the medium of a central body such as the Education Department.

The principal difficulty in solving this problem seems to lie in the 'degree of control' to be exercised by the State.

There are many reasons why a State control is necessary, a few of which may be noted:—

(*a*) As all other branches of education, mental, manual, and to some extent moral, are supervised and directed by the State, there can be no reason why physical training should not likewise be controlled and supervised.

(*b*) At present no recognised system of physical training is in use in our Scottish schools.

This want of system of organisation makes it quite impossible to accurately compare the results of work done in different districts, or to obtain reliable statistics of the physical improvement in children receiving instruction, *e.g.*, increase in size, additional weight, or greater immunity from those ailments and diseases which are invited, so to speak, by the flat chests, un-

developed lungs, and weak systems of so many children in large cities, where, as a rule, overcrowding is common and playing-fields are scarce.

(*c*) Owing to the want of expert supervision and instruction, it is in many cases extremely doubtful whether the pupils benefit by the training they now receive.

It is indeed admitted by some headmasters that the children are not in all cases taught by qualified instructors, and that they do not receive nearly enough of the training, such as it is.

The remedy is apparent. The Department might insist that any money grant for physical training would be paid only to those schools who provided a thorough course of instruction in at least three of the four main branches of physical training already indicated.

With regard to the grant now paid for adequate physical exercise (Art. 19, A 4, Scotch Code), which includes the teaching of drill—or some other form of physical exercise—I would suggest that a new grant be allowed for physical training, in a form to be approved by the Department.

This grant might be awarded in three degrees, *e.g.*, 1s. if the inspector reports that the teaching and results are *fair*; 1s. 6d. if he reports that it is *good*; 2s. if he reports that it is *excellent*.

The present grant of 1s. for organisation and discipline, only in so far as it relates to general school conduct and organisation—but not to drill or physical training—might be allowed as heretofore.

If for no other reason, the desire to earn this grant would of itself cause School Boards to adopt a more thorough and systematic physical training into their school curriculum.

Any scheme or system of physical training in schools must be sufficiently rigid to admit of the just comparison of one school with another, yet sufficiently elastic to provide a thorough training for pupils of all ages, of both sexes, and for weak as well as strong.

Such a system should ensure that whilst the infants and weakly children were not exercised beyond their capacity, the older and stronger children received sufficiently vigorous exercise to produce general development.

Finally, in order that absolute justice may be done to each school and each board, the inspector must be an expert. As there are Government inspectors of music, drawing, and other special subjects requiring expert knowledge, it is also necessary that physical training be inspected in like manner.

The time must come when physical training shall take its place with mental training, when the one shall help the other, to the betterment of the individual, and accordingly to the benefit of the nation.

10,935. What is the relation between mental study and physical training?—Mental study has primarily for its objects the cultivation of the mind for the purpose of enabling one to perform the duties of life.

This being so, it is necessary to teach the child those subjects which shall best fit him for employment on leaving school, and experience has taught those charged with the duties and responsibilities of education which subjects are likely to prove most useful.

Yet, though a certain amount of mental study is necessary (and now compulsory), if one is to succeed in life, it should be remembered that an unvarying action on any of our senses has, when too long continued, the same effect as no action at all.

It is therefore necessary, for the benefit of the pupil, to alternate the periods of mental study with periods of physical training, thus creating 'change'—the key-note of life.

In sickness or in ill-health, the brain-power is usually at its lowest; therefore, in order that the mind should the more easily receive impressions, it is necessary to have a healthy body. A recognition of this fact is of great importance, for often the mind of a weakly pupil is but educated at the expense of his body. It is well known that exercise is one of the most important factors in the building up of a healthy body, for 'the structures and functions of the body increase with use, and decrease with disuse and idleness.'

As, therefore, it is obviously against the laws of nature to cultivate one part of the body at the expense of another, the education of mind and the training of the body should be synchronous.

It must be admitted that the training of the mind undoubtedly requires more time specially devoted to it than the training of the body, because—with few exceptions—with children, mental study is more or less undesired and unwelcome, whereas the desire for movement is ever present, and the growth of a healthy child takes place spontaneously with every movement from the day of its birth.

Training essential for poorer class children.

Unfortunately, however, the children of the poorer classes do not long have the opportunities for even this spontaneous physical training. I have known children of poor parents, whose life consists of one round of unvaried toil, they act as message boys (or girls) before breakfast, during the school dinner-hour, and after school, the intermediate hours being occupied either with school or home-lessons.

It is therefore for these children that systematic daily physical exercise is so necessary; for their bodies are much neglected, and reflexly their minds are stunted and warped. They have frequently no recreation of a proper kind, except what can be found in close and narrow streets, where, I fear, they gain little else than vicious habits.

Time: half-hour daily.

10,936. What is a just proportion of time to be devoted to physical training in relation to study?—The school day being, usually, six hours, I certainly think a half-hour daily for physical training is only a reasonable proportion for lower-class schools, at all events; with regard to higher-class schools, three lessons weekly, each of half an hour, would perhaps be sufficient.

10,937. You think that half an hour is not too much?—It might be limited to twenty minutes.

10,938. I mean not in relation to the mental exercise, but to its effect on the body?—I do not think that it is too much.

Daily exercise.

10,939. Is physical training most advantageous if carried out daily in connection with school work?—To be of practical value, physical training must be carried out daily, during school hours, and more or less compulsorily, especially at Board Schools.

Outdoor and indoor training

10,940. What are the respective merits of outdoor and indoor training?—Physical training in the open air has an advantage over indoor training, solely owing to the fresh air and sunshine obtainable during the lesson. This only refers, however, to the spring and summer seasons, for in winter these advantages are not so apparent. In fact, if the gymnasium or room used for exercises be well ventilated, and aired between each class, the hygienic difference between indoor and outdoor exercises is very slight. There is, however, always the disadvantage of dust rising—from wooden floors especially—during marching exercises, and frequent washing is consequently necessary.

I am certainly in favour of outdoor exercise whenever practicable, more especially for drill and free gymnastic exercises.

Military drill: essential.

10,941. Should some form of military drill or training form part of the ordinary curriculum of every school?—Military drill (marching, turning, forming fours, and other elementary movements) must always form the basis of any practical system of physical training, either for children or adults, and the disciplinary effects of military drill are so well known that few schools are not taught it nowadays.

I am firmly of opinion that until pupils have thoroughly mastered the rudiments of military drill, they should not be allowed to learn the more specialised movements of dumb-bells, Indian clubs, or applied gymnastics.

System: must be comprehensive.

10,942. What system of physical training is, in your opinion, the best?—There is, in my opinion, no so-called 'system' which can claim perfection, or to be 'the best.'

As already stated, no system can be at all complete or perfect which does not embrace the four

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principal branches of physical training. Any much-advertised system of dumb-bell exercises or Swedish drill is but a part of the complete training necessary, and would soon prove intensely monotonous, especially to children, if it were the sole form of exercise given.

As each branch of physical training has its special uses, a combination of them all must be used to make a 'system' complete.

Such a combination, gradual and progressive, is given at George Watson's College, and I am sure that any pupil who has attended the gymnasium there for 3 or 4 years will have a good knowledge of each branch of training, and will, other things being equal, present a sound and uniform development.

As regards the details of movements with dumb-bells, for example, I use my own exercises, which, from experience and a study of anatomy, I find will produce the required development.

Physical education: lectures on physiology desirable.

10,943. As distinct from physical training, what physical education is given in your school?—Physical education — as distinct from physical training, such as lectures in anatomy, physiology, etc.—is not given at George Watson's College; but during the very hot weather I occasionally vary the work by a simple lesson on the muscular system, or the physiological effects of exercise, with special reference to an exercise then under observation.

I am greatly in favour of regular lessons in elementary physiology and anatomy being given during school hours, especially to the older pupils, in order to create an interest in their own health and development.

Experience: physical training essential for true development of national physique.

10,944. What are the results of your experience regarding physical training, games, etc.?—The general results of my experience are that, almost without exception, those who take a sufficiency of healthy exercise are undoubtedly stronger, healthier, and fitter in every respect for the battle of life, not merely physically but mentally, than those who do not.

A partial proof of this statement is seen in the average height standard of the upper classes, which is nearly 4 inches more than that of the lower classes.

It was at one time supposed that if a man was a good athlete, he must necessarily be a 'numbskull,' but this is not or need not be the case. I have had many boys through my hands who have taken high places in both branches of education — mental and physical.

Object of training.

It is not, however, the object of physical training in schools to produce a single specimen of perfect development, but rather to develop and improve the physique of the whole, without either impairing the mental faculties or taking up overmuch of the time necessary for mental culture.

I am convinced that up to the present sufficient attention has not been paid to the physical training of our children, simply because its importance has not been generally or fully recognised, either by the parents or by the local authorities responsible for education.

Organisation: none at present.

10,945. Are they at present sufficiently organised and supervised? Are the teachers themselves duly qualified and instructed?—During the past eight years I have made extensive inquiries into the physical training in Scottish schools, and I am forced to the opinion that there is but little system in the existing methods.

There is practically no organisation and no expert supervision.

A large number of children attending school receive no physical training. Each instructor or class-teacher, as the case may be, gives tuition in any kind of drill he pleases, and unless the teacher is fully qualified the result to the children is anything but satisfactory.

Lack of facilities.

Many headmasters complain bitterly of the need for more and systematic training, and also regarding the insufficient room for exercise.

One headmaster puts the matter very plainly when he says: '. . . . Though our children are evidently 'improving in their manners and general intelligence, 'they appear less fit and robust in physical aspect, and 'consequently less qualified for attaining success in 'life . . . As the years go on the number of delicate 'children has a tendency to increase, and it is therefore not without need that more attention is now 'being demanded for their physical training . . . . It 'is sometimes painful to think that we are actually 'stimulating their minds at the expense of their 'bodies' (Stockbridge).

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In other cases the children have to drill, *in all weathers*, in the playground, which may be all very well during the summer, but, as a headmaster says, 'it 'goes without saying that the discomfort arising from 'being exposed to all kinds of weather does not conduce to the satisfactory carrying on of the work' (West Fountainbridge).

As an example of the insufficiency of the training existent in the majority of Edinburgh schools, I may mention that only five instructors are at present employed to teach nearly 30,000 children, and consequently nearly one-half receive no instruction. Many of the teachers are said to be qualified to teach drill, etc., to their classes, but I am of opinion that their own training is not yet sufficiently thorough to enable them to do the children justice, as their knowledge of the subject rarely extends beyond a very rudimentary knowledge of military drill. There are, of course, a few exceptions.

Board Schools: want of system, etc.

Unfortunately, this want of system and organisation is most apparent in the places where physical training of a thorough kind is most necessary, viz., the elementary schools.

Secondary schools: sufficient training.

I have every reason to believe that in the majority of secondary and higher-class schools there is no need for any alteration in their present methods of physical training, for it is, as a rule, conducted on fairly sound lines.

The majority of these schools employ from one to three instructors, so that every boy receives a fair share of individual attention. The boys and girls attending these schools are, on account of their social position and environment, able to indulge in games and sports to a much greater extent than the lower classes, and are therefore not in need of so much physical training at school.

With the majority of School Board children all is different. Belonging as they do to the lower and even lowest classes, they have practically none of the advantages of the middle and upper classes. They usually leave school early in life, and immediately go to work, perhaps in a factory, almost certainly under more or less unhealthy conditions. Their generally ill-developed bodies are predisposed to disease, and under such conditions it is inevitable that the lower classes should deteriorate.

Food.

It must be admitted that the unwise and often insufficient food is an additional cause of the degeneration of the lower classes,—to whom, I fear, this is not solely confined. At the same time, I am sure that (with a preliminary medical examination) a rational system of physical training, rationally administered, will do much to improve their physique.

10,946. Are the pupils examined by a medical man? What kind of medical examination is made, and how often? Is a school register kept, showing the height, weight, chest girth, spirometry, biceps girth, and general physical development of the pupils? If so, how often are these measurements taken, and by whom?—There is no systematic medical examination at George Watson's College, though some boys are excused gymnastics on the advice of their family doctor, and I occasionally recommend boys, for various reasons, to see a medical man before engaging in arduous exercises.

Medical examination: none.

Owing to the extremely large number of pupils attending this school, I have not, so far, been able to undertake their measurement.

Measurements made of witness' pupils: advantages.

I, however, make a rule of measuring all my own pupils,* whether requested to do so or not, for two reasons:—

1st. Because should any part of the body be underdeveloped, measurement immediately discloses the fact, and attention can thus be directed to this part.

* *See* Vol. I. Appendix VI.

2nd. Because, as a rule, measurement gives a pupil more interest in the work of development, which by a physiological law proceeds far more rapidly when the work is considered a pleasure and not merely a task.

The knowledge that one is making progress in development greatly sustains the interest, especially in those exercises which otherwise would soon become monotonous.

I am in favour of a system of annual measurements, which should include the height and weight as well as bodily measurement.

Such a system would in time provide statistical proof of the value of physical training, which (apart from army measurements) is at present very limited.

The necessity for a better system of physical training in schools has occupied my attention since 1895, since which time I have more than once suggested to various School Boards means by which the present instruction might be improved and augmented.

I was met on every hand with the argument that, as the majority of schools were already in receipt of the higher grant for physical training, there could be no need for any alteration.

The question of actual benefit to the children, *who were earning this grant*, was made of quite secondary importance.

This, then, I found the stumbling-block to further progress, and reluctantly came to the conclusion that unless the Government or the Education Department moved in the matter, no improvement was probable.

It is worthy of note also that whereas the higher grant for physical training (under the head of organisation and discipline) is paid, generally speaking, for about 85 per cent. of the children, or even more, nearly one-third, and in some cases one-half, of the children receive no physical training at all.

The attached scheme is the result of my earnest consideration of the subject for many years, and I believe that it is only by the adoption of some such system into schools that the adequate physical training of our children will become possible.

Proposed Scheme for the introduction of Systematic Physical Training into Board and Secondary Schools.—For the proper and adequate physical training of the children attending Board or Elementary Schools at a minimum of expense, the following method will, I believe, be found the most practical and efficient.

Briefly, the instruction of the children should be given by the class teachers, who are first taught, and afterwards assisted and guided by a superintendent; and the work is inspected at intervals by expert inspectors appointed by the Education Department.

To make the proposed system clear, it may be divided into three heads, viz.:—

A. The training and duties of the teachers.
B. The duties of the Superintendent.
C. The duties of the Inspector.

A. The training and duties of the teachers.

1. The whole of the teachers (except those teaching special subjects, like art, French, music) should attend a Training Centre twice a week, probably between 6 and 7 p.m., to receive practical and theoretical instruction.

2. An examination held (say quarterly) by the Board, assisted by an expert, should be passed by the teachers in order to qualify for certificates of proficiency in drill.

3. On receiving certificates they would be considered qualified teachers in drill, and having been taught the same system, they should be able to teach the same drill to any class in any school.

4. They would be held responsible that the system adopted was adhered to in its fundamental principles, so that there would be no real difference between the work of one school and another.

5. The male and female teachers would receive instruction separately.

B. The duties of the Superintendent.

1. The whole of the personal training of the teachers would be under the direction of one Superintendent, according to the system sanctioned by the Education Department.

2. The Superintendent would be immediately under the orders of a Committee appointed to manage this section of education, from whom he would receive his orders, and to whom he would be personally responsible.

3. During the day the Superintendent would visit as many schools as practicable, and assist in the work, helping and advising the teachers, or checking any irregularities in system of drill.

4. The Superintendent might also award marks to each class and school visited, in a book kept for that purpose for his own reference, and also for the guidance of the Inspector at his visits. He would be required to visit the schools periodically to see that—

(*a*) The teachers allowed no irregularities to creep in.
(*b*) Every teacher was efficient.
(*c*) Those teachers whose method of instruction was not right were helped, and received further instruction. He would require to see that the infants and weakly children were not exercised beyond their capacity—a branch of the science of physical culture which only an expert perfectly understands—and he would also give assistance when and where necessary.

C. The duties of the Inspectors. Inspectors.

The Inspector should report (say) quarterly on each school visited, regarding—

(1) The number of certificated and uncertificated teachers in each school.
(2) The progress made since last visit.
(3) Number of hours daily allotted to physical training.
(4) Time allowed for playground recreation.
(5) Reasons why some teachers do not possess certificates.
(6) Suggestions as to alterations in system or time allowed for drill.
(7) The number of children (*a*) under instruction, (*b*) not under instruction, and why.
(8) Whether the training of the children was 'fair,' 'good,' or 'excellent.'

With regard to the actual system to be used, the Department might well authorise a broad plan of work to which School Board authorities would be required to adhere more or less closely. For instance, a thorough course of physical training should consist of—1, Military drill; 2, free gymnastics; 3, dumb-bell exercises; 4, applied gymnastics. The Department might reasonably insist, therefore, that the highest grant would not be paid, unless instruction were given in at least two (or three) of the branches of physical training. System: general principles.

It is further suggested that the grant for physical training be paid as follows:—1s. if the Inspector reports that the work is '*fair*,' 1s. 6d. if he reports '*good*,' and 2s. if he reports that it is '*excellent*.' Special grant.

10,947. What remedies or suggestions have you to propose regarding the last part of the terms of reference, viz., how the existing opportunities for physical training may be increased by continuation classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus to contribute towards the sources of national strength?—That there exists a real necessity for providing the growing youth of this country with wholesome, healthy, and cheap recreation for the evenings will readily be admitted.

The public-house, the music-hall, billiard room, and the street appear to be the chief resorts of thousands of young men, who would be far better employed cultivating either mind or body. The physical training of those who are no longer at school is conspicuous by its absence, owing no doubt to the want of facilities for obtaining such tuition cheaply.

The problem of providing evening instruction in gymnastics, and other forms of physical training, suitable, as regards expense, for the working classes, and at the same time of real value from the point of view of physical development, is a difficult one.

I believe, however, that the following suggestions may assist to some slight extent in solving this problem; and though I am aware that evening classes of this

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kind were tried in London without great success, I think, with care and attention to certain details, such classes could be made most popular.

The London classes failed principally owing to the want of proper gymnastic apparatus and instructors. In providing for evening classes, therefore, these shortcomings must not be overlooked, especially in the initial stages, if success is to be assured.

Continuation classes: to be held in gymnasia attached to schools.

There are three principal questions to be considered, viz.—

1. Where can these classes be held?
2. How can they be made popular?
3. The question of fees, etc.

1. Where can these classes be held?—There being so few public gymnasia, the only possible place where evening classes could be held at present is in the public school gymnasium; and I may here say that the following suggestions are based upon the assumption that School Board authorities will permit the use of their gymnasia during the evenings.

There are (or are shortly to be) thirteen gymnasia attached to the public schools in Edinburgh, which should be sufficient—at all events at first—to undertake the work.

If the classes proved popular, the whole of the gymnastic instructors employed by the Board would probably be required every evening for two or three hours; and it is absolutely necessary to have this instruction, if good results are desired. Each gymnasium should be fitted with all necessary apparatus.

Classes: suggestions for making them popular.

2. How can the classes be made popular?—The fact that such classes were to be held should be made widely known, and possibly the simplest means of advertising would be by asking the present pupils to mention the matter to their brothers or other relatives who had left school.

Another simple method of obtaining 'recruits' would be to ask those boys or girls about to leave school to join the classes, and thus a 'school club' might be formed.

For the classes to be popular they must be cheap, and although it might be necessary to charge a small fee, an arrangement could be made whereby a portion of the fee would be returned if a good percentage of attendances were made, as is now the custom with the present evening continuation classes.

It would also be necessary to offer prizes for individual and inter-school competition, for I am convinced, by my experience with evening classes and clubs, that competition is absolutely necessary to sustain interest in any form of athletics.

Moreover, inter-school or inter-city competitions have undoubtedly the effect of creating a most desirable *esprit-de-corps*.

Classes should be for young women as well as for men, but distinct. They might be held every evening, the most suitable hours being between 7 and 10 p.m., and pupils should be desired to attend at least twice weekly.

Measurements of the men should be taken, as I find this helps to give a greater personal interest in the work, besides being of use from a statistical point of view.

Lectures in the Physiology of Exercise might form a part of the season's work, and would, I believe, tend to popularise the subject.

Continuation classes: fees.

3. The question of fees, etc.?—I think it would be better, from every point of view, for the pupils to pay a small fee (returnable as mentioned), because there is always the inducement of obtaining a return of some portion or the whole of the fee, and this should help to ensure the regular attendance of a pupil for a session.

Such a system of payment would certainly be popular, but in the event of *every* pupil making the necessary attendances and having his fee returned, by whom should the cost of instruction, etc. be borne?

This is a matter for a Government grant, and would certainly be worth an experiment. If a good and regular attendance, and fair all-round development (as shown by measurements at the end of a session), were secured, the experiment would be succcesful and worthy of repetition.

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If the public could only be brought to see the enormous benefits—not merely physical, but *moral*—of such a training to their children, and through them to the nation, I believe that, with the exception of the very poor, they would not grudge the small fee asked, and that such a voluntary system of continuation classes would in time become popular and universal.

10,948. What is your opinion of the Swedish system of drill?—The movements of what was at one time called Swedish drill are used in free gymnastics and dumb-bell exercise. Free gymnastics are really Swedish drill.

System: must be general principles laid down in official text-book

10,949. *By Mr Fergusson.*—On the question of system, I suppose that while you do not advocate any hard and fast system, still you agree that some general principles must be laid down for teachers to work on in the elementary schools, so as to have some general uniformity?—Yes. In the Edinburgh schools the teachers might be taught one system of dumb-bells, for instance.

10,950. But there must be some book which would contain the groundwork of the instruction?—I think the Education Department should draw up a pamphlet somewhat after the lines of the model system.

Cruden's Chesterto books.

10,951. Allowing the teachers to introduce exercises on the lines to suit their own schools?—Yes.

10,952. Do you know Cruden's book?—Yes.

10,953. Does that book contain most of what you think is desirable?—I think so. It contains the same exercises as are used in the service.

10,954. Do you know Chesterton's book?—I should say that it was the best.

Music: advantag up to two

10,955. One of the strong points in Cruden's system is music. What is your view?—I think that it has advantages for the younger children, but not after you get to children of the age of twelve or thirteen. For little boys and girls of eight to ten it makes drill more interesting.

10,956. But even when they are older does it not relieve the monotony a little?—I don't think it is so beneficial; I don't think there is the same development as there is without it. The exercise is rather sacrificed to the mere keeping of time. They cannot put their mind into it so well. For young children it gives an idea of time and tune, and that makes it more interesting, but the older ones will do the exercise without the music.

10,957. Of course the exercise must be learned thoroughly before the music is used?—Yes.

Teachers properly trained a supervise

10,958. Do you think that in the elementary schools this work should be left in the hands of the ordinary teacher, supposing that teacher to be qualified, or should it be in the hands of experts?—I think that the teaching of the classes should be left in the hands of the teachers, who should have a thorough training first.

10,959. Would you have any supervision by specialists?—I think that that is necessary, but if there is no such supervision, then the teachers might become slack.

Expert inspector

10,960. How would you do it? Would you have an expert visiting schools now and again and seeing if they were going on all right?—Yes. I think that each Board should be responsible for their own schools, and should have an expert or two.

10,961. There should be an expert, however it was arranged?—Yes.

Training daily for half-an-h

10,962. You have already expressed yourself as being in favour of medical inspection. You say that the physical training should occupy half-an-hour?—Yes.

10,963. You lay stress on it being done every day?—Yes, it is necessary to have it daily.

10,964. You know that there are practical difficulties which come in in large schools where there are great numbers of classes, and where you cannot find time in the day to give each class its half hour?—I believe that even less than half-an-hour would do, but I think hat half-an-hour would be of great use. I know that

a lot of work can be done in ten minutes, and if they got a full ten minutes every day it would be of the greatest use.

10,965. Would you sooner have half-an-hour every day than every other day?—Yes, I think it is the continuance of exercise that is good.

10,966. You spoke of the trouble in finding covered places for the work. You favour covered playgrounds?—Yes, so that the work can be done in any weather, and then you have fresh air.

10,967. The school teachers would require to have a very thorough training?—Yes.

10,968. How long do you think it takes to train a teacher?—Well, educated people could learn in a quarter, taking lessons twice a week, making fifty-two lessons, both of theory and of practice.

10,969. You think that the ordinary teacher might, with that number of lessons, be qualified to teach his class?—Yes. In time it would be much easier if such a system as I have advocated were adopted, because the pupil teachers would learn it, and when they came to the special class they would know this work.

10,970. *By Mr Shaw Stewart.*—With regard to the problem of providing evening instruction in gymnastics, have you considered the point as to how that could be made popular?—Yes.

10,971. You don't say anything on the point of making it compulsory?—I was afraid to mention it. I am in favour of it, but I did not mention it as I did not think that it would be considered.

10,972. We have to consider all kinds of boys, whether they are inclined to physical exercise or disinclined, and perhaps it is more important that those who are disinclined should take part in physical exercise. There are only two ways, either by attracting or compelling them?—That is so. I am afraid there is a class that would never be induced to join. I don't think the lower class or the criminal class would attend.

10,973. You think it must be made compulsory?—Yes.

10,974. Do you think that compulsory attendance upon three nights a week could be made practicable?—It could be done. You could get people to teach them in Edinburgh, where there are thirteen gymnasia. It is only a question of expense and the ability to enforce attendance.

10,975. What do you think about it?—I believe in it strongly.

10,976. And do you think that attendance could be enforced?—I don't think that it could be enforced without an Act of Parliament.

10,977. You have not specially considered that point as to how it could be done?—No. I did not think when reading the question of saying that it should be compulsory, but I am in favour of it being compulsory.

10,978. That is the only way in which you think you could get large numbers of those who are disinclined to come in?—Yes.

10,979. *By Sir Thomas Glen Coats.*—A great many boys after leaving school go at once to find some employment, and a great number of them are beyond parental control, so that if you did enforce compulsory attendance, you would require to proceed against the young people themselves in the event of their not turning up?—Yes.

10,980. Would that be practicable?—I don't think so, unless it was made the law. Of course, you might act in the same way as you do with children who have to attend school.

10,981. That would be by extending the age?—Yes, extending the age for training to eighteen.

10,982. But they might be employed in an office?—Yes, but they don't work at night. They would be far better employed at something like that if you could only get them. There is nothing to keep them away, except in the case of those on night duty, and there are very few of those.

10,983. Have you formed any idea as to whether the people would stand that?—I am afraid they would not in Scotland, especially if the military part of this business was put too far in front. There is a feeling against militarising too much. I have spoken to a number of parents about that. They all like the idea of their children getting miltary drill, but when there was the idea that we should have a class after hours where the boys should wear a uniform, some of the parents came and said that they did not like soldiering, that they were afraid that their boys would run away and enlist.

10,984. *By Sir Henry Craik.*—You, having considerable experience of Board Schools, have come to the conclusion that the physical training given therein is defective?—Yes, I think it is very defective in most instances.

10,985. You are aware, because you have mentioned it just now, that there are no less than twelve or thirteen gymnasia in connection with the Edinburgh schools?—That is so.

10,986. They have attempted to appoint instructors and have made efforts in that way, but still you think that generally all over Scotland it is very much under what ought to be given?—Yes, because I do not think they get long enough at it, and a large amount of the instruction that they do get is not what it should be.

Course suggested.

10,987. These are two separate things. Of course it is not whether it is twenty minutes or half an hour or three-quarters of an hour. Do you wish it to be longer than any of these times?—No, I think the time they *get* is enough, but in some schools they get practically none.

10,988. Then you think we ought to say that physical instruction must not only be part of instruction in every school, but it must be taken up by every pupil in the school, unless there is a medical certificate to the effect that the pupil is not fit to do so?—Yes.

10,989. You think that the Department would be justified in going that length?—Yes.

10,990. You think that the Department should not give the highest grant unless that is done?—That is so. I say that the grant is paid at the present time for a large number of children who don't get any physical training.

10,991. There is no grant paid, because there is no special grant for training, but the condition is considered to be fulfilled even when a number of the children in the school are not getting instruction?—That is so.

Instructors: differences between army drill and gymnastic instructors.

10,992. That is so far as regards the number of people getting the instruction, and the time devoted to it. Broadly speaking, what is the defect in the instruction that is given?—That is a point upon which I, as a professional instructor, have never cared to speak, because it looks like finding fault with my colleagues. I have seen from the reports of the evidence that have appeared in the *Scotsman*, that one or two of the witnesses state that they are rather against army drill instructors. I think I ought to make it clear that there is a great difference between the army drill instructor and the gymnastic instructor. The drill instructor may be any man who has left the army, and who has merely a knowledge of drill. He takes a situation as a drill instructor and janitor, but he does not know anything about gymnastics. On the other hand, the gymnastic instructor is a man who has had instruction and practice in gymnastics. He is a drill instructor, and also a gymnastic instructor. In Edinburgh there are three or four who are merely drill instructors and nothing else. Their knowledge is gained from some book, probably the Army Drill Book, and unless a man has a very fair knowledge of the work he is doing, and the effect he is producing, or wishes to produce, I say that he is not a qualified instructor. That is the fault of the present system in Edinburgh.

Teachers should be trained.

10,993. Then the inference from that is that you either require a specially-trained instructor to give this instruction in every school, or that the teacher should have gone through the course himself?—I prefer the latter, which I think is the better course. The teachers themselves have told me that a teacher of a class,

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knowing each boy by name, can get more out of his class in twenty or ten minutes than a visiting master can get in half an hour.

10,994. But in the larger schools you would have a special instructor?—In fee-paying schools it is a different matter. In our own school we have two instructors, and in the Academy they have three. That gives every boy a fair share of attention.

10,995. You think that the highest grant should not be considered to be earned unless the instruction is provided, unless every pupil who does not show a medical certificate takes part in it, and unless it is given by some one who has given adequate proof of training in that special subject?—Yes.

Expert inspector.

10,996. You think, further, that it ought to be inspected not only by the ordinary inspectors, but that they should have the assistance of an expert examiner?—Yes, I think so, because there are so many little differences in movements that a man, unless he has been thoroughly trained to do drill movements himself, would not know any difference. I have seen drill done which was of very little use, but which looked all right, as it was done to time and had a nice appearance, but, as to developmental effect, it would have very little.

Military drill: rudiments essential.

10,997. In regard to the military drill, whatever prejudice there might be against it, you think that the rudiments of military drill must precede every form of physical exercise?—Yes, for the sake of order and discipline. It must be done first.

10,998. It must be the basis?—Yes, it is very simple, but it must be done first.

10,999. *By Mr Alston.*—You begin with elementary drill. Would you go on with the older boys to more complete drill?—Yes, a little more, but not very advanced movements.

Instructors: drill and gymnastic.

11,000. Do you draw a distinction between the drill instructor and the gymnastic instructor? Are they two different men?—Yes, very different men. Once a man gets a certificate in the army for gymnastic instruction he would not call himself a drill instructor. A gymnastic instructor includes drill. Every man leaving the army must have a good knowledge of drill, and he may go and make himself an instructor, but he knows nothing beyond what he gets in the drill book.

11,001. A gymnastic instructor knows the physiology of it?—Yes, he has been taught that.

11,002. He is also a competent drill instructor?—Yes, he must be that.

11,003. Your old soldier or janitor is not the man you want?—No.

11,004. Is a gymnastic instructor, who is also a competent drill instructor, kept thoroughly posted up in the newest drill? It has been said that he requires to go back to Aldershot to refresh himself?—That is not the case. Of course it depends on what sort of man he is. As a rule, a man has a great deal to learn after leaving the army. He may think that he knows all about gymnastics, but I am afraid he does not. Personally, I have not gone back to Aldershot to learn, and I don't think there is any necessity for it. I keep quite up to date without that.

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11,005. It would be the duty of the School Boards, when they engaged a drill instructor, to engage a man who was competent in gymnastics as well as drilling?—Yes.

11,006. That is not found in a man who can only teach company drill?—No.

11,007. At George Watson's College you have no fewer than 1700 boys. In how many squads do you put these through the physical training?—We get them in classes of about 40 boys each.

11,008. What space do you require to drill 40 boys?—We have a large gymnasium, about 70 feet by 40.

11,009. An ordinary school does not have those facilities?—No.

Music.

11,010. You say that musical accompaniment is very desirable for the younger pupils, but that the training should be thoroughly instilled before you use the musical accompaniment?—Yes.

11,011. Would you use the musical accompaniment afterwards?—Yes.

11,012. What do you say to the opinion expressed by an expert, that musical training is advantageous because it involves less mental concentration?—That is so, but other people say that unless you have concentration you don't develop so quickly. I believe you must have a certain amount of concentration on what you are doing at the time. Otherwise the development does not take place so rapidly.

Continuati classes: fe

11,013. *By the Hon. Thomas Cochrane.*—You suggest that the pupil should pay a small fee, to be returned afterwards. I don't quite understand that point. Do you think that that would be an attraction?—It would, if the pupils thought that they would get the fees back again. There must be some expense, and I think it could be managed in the same way as the present continuation classes are managed. They pay a fee, and it is returned to them if they put in a sufficient number of attendances.

The witness withdrew.

Adjourned.

TWENTY-THIRD DAY.

Thursday, 18th September 1902.

At the Museum of Science and Art, Edinburgh.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

THE HON. THOMAS COCHRANE, M.P.
SIR THOMAS GLEN COATS, Bart.
SIR HENRY CRAIK, K.C.B.
MR M. H. SHAW STEWART, M.P.
MR J. C. ALSTON.
MR J. B. FERGUSSON.
MR GEORGE M'CRAE, M.P.

MR R. B. PEARSON, *Secretary.*

MR R. ROBERTSON, examined.

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11,014. *By the Chairman.*—You are headmaster of the Edinburgh Ladies' College?—Yes.

11,015. Have you had an extensive experience lasting over several years?—Yes.

11,016. State your school and university training, your former experience, and the time in your present position?—*Training.*—Pupil-teacher, March 1863 to December 1867, nearly five years. Student in Train-

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ing at Moray House, 1868–69, two years. Student in Arts, Edinburgh University, 1870–74, five sessions.

Former Experience.—Teacher in Practising Department of Moray House Training College from January 1870 till July 1874, four-and-a-half years. Headmaster of Kirkliston Public School for two years, 1874–76. Head Mathematical Master in Edinburgh Ladies' College for fifteen years, 1876–91. Headmaster of Edinburgh Ladies' College for eleven years since October 1891.

11,017. (*a*) What is the class of your school and scholars? (*b*) Give the numbers and ages of the pupils?—(*a*) Secondary School for Girls. Majority of pupils belong to upper middle class, daughters of professional men and business men. About fifty Burgh Committee Bursars, and, on an average, about twenty Heriot Bursars are on the Roll. (*b*) About 1100 pupils, whose ages range from five to nineteen years.

11,018. Perhaps you would explain a little more fully what these bursars are?—Ten or twelve of them are admitted every year after an examination conducted by the Edinburgh Burgh Committee.

11,019. What age will they be?—They are under twelve.

11,020. You say also that there are about 1100 pupils whose ages range from five to nineteen years. Have you many children as young as five?—Yes, we have from 40 to 50; the largest number of girls are those of thirteen, fourteen and fifteen years.

11,021. I think you have been headmaster in your school for nearly eleven years?—Yes.

11,022. Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.*, football, cricket, hockey, etc. (1) Are they organised and supervised by masters? (2) What is the size of the playing field, and its distance from the school?

(*b*) Drill: how taught, and by whom? Gymnastics, free or applied? Is there a gymnasium attached to the school?

(*c*) Athletics, *e.g.*, jumping, running, etc.

(*d*) School runs, paper-chases, etc.

(*e*) Handicrafts.

(*f*) Voice training.

(*g*) Cadet corps, rifle shooting.

(*h*) Swimming. (1) Is there a swimming bath attached to the school?

(*i*) Fire brigade corps.

(*j*) First aid and ambulance.

(*a*) There is a tennis club connected with the College, the membership of which has averaged over 100 during the past ten years. Sometimes the membership is as high as 140. During the last few years there has been a tendency for the membership to decrease, and that decrease we attribute to cycling becoming so popular among the girls. Instead of going to the tennis club they go out for a cycle run. The average is slightly over 100. Of course the members of the club are limited to our senior department, girls from twelve years upwards. Members have the option of playing at the Falconhall Courts, two miles distant from school, or on the lawns of Daniel Stewart's College, distant about one mile. The Falconhall Courts, which are four in number, were laid out by the Governors in 1893, in the middle of a field measuring 1½ acres in extent. Round the courts a short-hole golf course has also been laid out. This golf course was laid out so that if too many girls turned up to play tennis, those who could not get on to the courts were enabled to fill up their time satisfactorily. Two courts are used by pupils of the Edinburgh Ladies' College, and two by pupils of George Watson's Ladies' College. The pupils of each College has a separate pavilion. At Daniel Stewart's College there are four courts, and the grounds measure 1¾ acres. The pupils of the Edinburgh Ladies' College have the use of the four courts on the evenings of Mondays, Wednesdays, and Fridays, and of two courts on Saturday forenoons. Each section of the Club is managed by a committee of senior pupils, with the assistance and advice of a class governess. They practically manage the matter themselves, but call in the governess when they wanted advice in any way.

(*b*) Drill is taught to junior and senior pupils in accordance with Ling's Swedish system, by two lady teachers, who have had a two years' course of training under Madame Bergmann Österberg, at the Physical Training College, Dartford Heath, Kent. Pupils receive lessons in gymnastics, both free and applied. There are a gymnasium and a drill hall (used also for dancing) attached to the College. Until 1893 the teaching of drill and gymnastics was in the hands of masters. From 1893 till 1899 dancing was taught two hours weekly during the first and second quarters, and drill and gymnastics for one hour a week during the third and fourth quarters, the latter subjects being under the care of a succession of lady teachers, natives of Sweden or Norway, and trained at the Royal Central Institute, Stockholm. These ladies did excellent work, but as they were employed by us only during the half year, when they got a situation at home, where their services were required all the year round, they seldom came back to us, and we therefore never had them for more than one or two years. At that time the supply of qualified lady drill instructors was very small, but since the institution of Madame Österberg's training college at Dartford Heath, the supply is more ample, and we can get home-trained teachers. Since October 1899 more complete arrangements have been in force at the two Merchant Company's Ladies' Colleges, where two ladies now devote their whole time to the teaching of dancing, and two to drill and gymnastics. In the forenoons throughout the whole session dancing is taught at the Edinburgh Ladies' College and gymnastics at George Watson's Ladies' College, while in the afternoons the pupils of George Watson's Ladies' College receive their lessons in dancing and those of the Edinburgh Ladies' College in gymnastics. The teachers in the middle of the day go from one school to the other. The dancing teachers go over to George Watson's and the drill teachers come over to the Edinburgh Ladies' College for the afternoon. At the Edinburgh Ladies' College each class receives weekly an hour's lesson in dancing, and the same in drill and gymnastics. Much benefit has resulted from these changes. Not only has the time devoted to drill and gymnastics been doubled, in so far as they have now a weekly lesson of an hour all the session through instead of during the last two quarters as formerly, but there is now throughout the year a continuity in the lessons which conduces to steady interest in the work and more satisfactory progress. The fact that there are two teachers is an advantage in many ways, but chiefly in rendering possible more thorough classification. The time-table is so arranged that two English classes are taught gymnastics together. These are all English classes, with pupils as nearly as possible of the same age and having the same attainments in English. They are reclassified for gymnastics, as those who have previous training in gymnastics and are expert are put into the higher class for gymnastics, and thus beginners (chiefly pupils admitted from other schools) are never placed in the same division with scholars of several years' training. The lessons are thereby rendered more pleasant and interesting to all, and good pupils are advanced more rapidly to more difficult exercises.

Drill. Gymnastics. Instructors. Dancing. Time. Gradation of classes.

(*c*) Exercises in jumping and vaulting form a regular part of the gymnastic lessons.

(*f*) Voice training is given in connection with the lessons in singing, to which two hours are devoted weekly.

Voice training.

(*h*) A swimming club was formed in connection with the college in February last, arrangements having been made with the directors of the Warrender Baths, by which pupils have the use of the baths on reduced terms of subscription. The membership of the club numbers thirty-four.

Swimming.

11,023. State specifically the time allotted to those or any of them *per diem* and per week?—See my previous answer.

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Training in school hours.

11,024. Are any of these taken in ordinary school hours?—Drill and gymnastics are taken in school hours; swimming is not, as it is generally taken in the afternoon or Saturday forenoon.

11,025. What, in your opinion, are the respective merits and relative values of the various forms of physical training?—My opinion may be gathered from subsequent answers.

Opportunities taken advantage of.

11,026. How far are these opportunities taken advantage of?—While drill and gymnastics are not compulsory, the lessons are taken advantage of, except in the highest class, by 90 per cent. of the pupils. There are still parents who object to gymnastics on grounds of propriety, and several pupils are exempted on the score of health. At the beginning of the session the pupils are told that they are all expected to take lessons in gymnastics, and those who wish to be exempted have to bring written notes signed by their parents. We find that several of them don't care about taking the whole of the work, but are willing to take lessons in drill and physical exercise if they are exempted from gymnastics. We meet the wishes of the parents as far as we can. There are also cases of pupils who have extra lessons at the request of the parents. If a teacher finds a pupil suffering from slight curvature of the spine or stooping shoulders, and if extra exercise would help, then arrangements are made, and in many cases great benefit has resulted.

Training: effects; moral, physical and mental.

11,027. What, in your opinion, are the results of such physical training?—What are the effects, moral, physical, and intellectual?—*Moral effects.*—Increase of physical fitness promotes cheerful disposition, healthy exhilaration of spirits, and general feeling of happiness. Gymnastic exercises develop courage, presence of mind, and self-control. Games foster a spirit of ready and hearty co-operation, loyalty, unselfishness, magnanimity, self-reliance, and power of endurance. The games I refer to are indoor games. The lesson in gymnastics is frequently relieved by the children being asked to take part in a game that is arranged and supervised by the drill instructor.

11,028. What sort of games?—Parlour games. In that way they are often initiated into games that they might not otherwise hear about. The teachers of drill learn a great deal about such games in the training college.

11,029. Such games as general post, hunt the slipper, blowing a feather, and so on?—Yes, games that are easily adaptable to the drill hall. The children take great interest in them and return to their work with great pleasure after a break of that kind.

Physical effects.—Muscles are developed, joints are suppled, the chest is broadened, the spine is straightened, shoulder-blades are flattened, the blood is purified and invigorated, functional activities are promoted, and digestion is improved. It is an excellent thing about the training or system that all the parts of the body are developed harmoniously. Exercise gives pleasure, and bodily movements become free, easy, and graceful. It is quite evident that within the last few years the carriage and bearing of the girls have decidedly improved through the exercise they have had.

Mental effects.—The brain as part of the body shares in the general physical development, becomes more alert and responsive, acts more freely, with more pleasure and with more effect. A feeling of repose and a consciousness of power are engendered, greater power of concentration and attention is secured, and class discipline is thereby rendered easier.

Uniform system undesirable: must be great freedom.

11,030. Is a uniform system of physical training in schools desirable or necessary?— A uniform system of physical training in schools is neither necessary nor desirable. Systems of physical training should be modified to suit the class of schools, primary or secondary, the sex of the pupils, and even to some extent the locality, whether town or country. What is suitable for boys may not be suitable for girls. In other branches of school work the Education Department has of recent years acted more and more on the sound principle of leaving much to local and personal initiative. Physical training might wisely be dealt with on the same principle. While school authorities might be asked to submit schemes for the approval of the Department, a large measure of freedom should be allowed.

Mr Robe

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Suggest improv ments.

11,031. How, in your opinion, can the present system be improved and developed?—The system at present in use is so rational in its underlying principles, and its details have been so thoroughly thought out, that improvement seems possible only in its further practical development. With a view to this, more time is required. It is, however, exceedingly difficult to find additional time, especially in the senior department, owing to the increasing number of subjects included in the curriculum. It would also be a decided advantage if, in addition to the weekly lesson given by the special teachers, a brief period of say ten or fifteen minutes, two or three times a week, could be devoted to physical exercises, under the direction of a teacher or governess. This would imply further training, however, on the part of the general teaching staff to secure effective work. Better results could be obtained with the present time-table arrangements if all pupils were properly clothed in prescribed gymnastic costume. Though the use of such a costume is not made compulsory, every means is used to encourage its introduction, and it is now becoming much more general. But there are still parents who have a prejudice against it. Its general use would add to the comfort of the pupils, would enable the teachers to introduce a greater variety of exercises to render the lessons more interesting, and, in consequence, to secure more satisfactory progress. There are many exercises which they cannot perform with comfort and safety without a special gymnastic costume. If a special gymnastic costume is introduced, there is greater variety and more interest and progress in the work. Last session we made it a condition practically on all pupils being admitted to the higher divisions that they should provide themselves with the special costume. That has had a very satisfactory result in the way that a very much larger proportion of our pupils now provide themselves with this special costume.

Special clothin cost.

11,032. At what cost would that be?—It would not be serious. It would consist of a serge blouse and knickers, which most of the pupils have in any case. A matter of 10s. or 12s. would cover the cost.

11,033. It would not be prohibitive?—No, not in many cases. I have had only one case where it seemed prohibitive, and that was the case of a Heriot bursar, but that is the only case where the question of cost has been raised at all.

Mind body: relatio

11,034. What is the relation between mental study and physical training?—Physical training taken in its widest sense is a powerful factor in keeping the body healthy and well. Hence it helps the brain to keep strong, and able to do the mental work required of it. Through increase of lung capacity a larger supply of oxygen is taken into the blood, which, purified and invigorated, flows to the brain cells and renders them better able to perform their functions. Again, by changing from intellectual to physical work, the blood is drawn from the intellectual centres to the motor centres, and gradually the intellectual centres become quiet, until they reach an almost passive state. Hence from physical exercise we actually obtain rest. Physical training also develops certain qualities, such as alertness, quickness of observation and self-control, which are of the utmost value in mental study.

Time: propo must might hours week

11,035. What is a just proportion of time to be devoted to physical training in relation to study?—No definite answer can be given to this question, as the proportion of time should vary according to infinitely varying circumstances.

11,036. Supposing the circumstances were more equal, we rather want to know what could be instead of what is?—Under present school conditions?

11,037. Yes?—We give practically an hour of gymnastics, an hour of dancing, and two hours of singing.

11,038. That is four hours?—Yes, and then our pupils have intervals of seven minutes at the end of every hour, in which there is a change from one room to another, giving them a change of position and making them walk up and down stairs. They get twenty-five

minutes for luncheon and play. Their lunch does not occupy them more than ten minutes, and they devote the rest of their intervals to dancing, skipping, tig, running about and shouting to their hearts' content. The recreation room is quite away from the classrooms, and we leave them very much to themselves. They have practically five hours a week independent of mental work such as the ordinary lessons, and I don't see that under present conditions we can give them any more.

11,039. You think that probably that is sufficient time, or would you like to give them any more?—If it could be arranged, I don't think it would do them any harm to give them more.

11,040. Is physical training most advantageous if carried out daily in connection with school work?—The best results would be obtained if physical exercises could be given for a short time daily by the ordinary teachers as part of the regular routine, in addition to a weekly lesson from an expert. Of course I pointed out before that the difficulty in carrying that out is the fact that all the teachers are not specially qualified to give instruction in training. I remember as a pupil in a country village school our old teacher used to make the work more pleasant to the pupils by making us for about five minutes stand at word of command, turn right and left, and other very simple exercises, when we were somewhat tired at our tasks. After the exercises we sat down again quite refreshed. If something of the kind were introduced, perhaps more systematically, it would be helpful.

11,041. What are the respective merits of outdoor and indoor training?—For all practical purposes, especially as regards girls' schools, a good well-ventilated gymnasium is of greater value than an outdoor playground for physical training, and for the following reasons:—

(1) Our climate is such that the proportion of days when an outdoor gymnasium would be totally unfit for use is very great. There are many days when we could not turn the girls out on to the playground to put them through the exercise they have to undergo.

(2) A scientific course of training necessitates a certain amount of rest between the various items of the lesson, and is quite different from the quick continual motion which must be kept up by a class exercising out of doors. Thus the chance of pupils taking cold in such a course would be much greater if the lessons were given in the open air.

(3) A minor reason is that it is more difficult for children when out of doors to fix their attention on the matter in hand. The very fact of being in the fresh air induces in them a feeling of unrest and impatience at restraint, which makes it more difficult to secure satisfactory results in the limited time usually allowed for the gymnastic lesson.

11,042. Should some form of military drill or training form part of the ordinary curriculum of every school?—Not of secondary schools for girls.

11,043. What system of physical training is, in your opinion, the best?—Ling's Swedish system seems to me the best for girls' schools. It is the most scientific, its principles being based upon a sound knowledge of mechanics, anatomy, physiology, and psychology. Its details have been most thoroughly and systematically worked out. Its exercises are very numerous, carefully chosen for their physiological effects, thoroughly graduated, so that within each lesson one movement prepares the way for the next, capable of endless variation to suit special circumstances, and providing facilities for regular and steady progression from simple and gentle exercises to those more difficult and more complicated. None of the exercises are too violent or too fatiguing.

It differs from other systems in being largely independent of the use of apparatus, is therefore less expensive, and admits of free exercises elsewhere than in the gymnasium.

From the very large number of movements, every part of the body is exercised, and care is taken to secure harmonious development. Its fundamental principle is 'the oneness of the human organism, the 'harmony between mind and body.'

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11,044. As distinct from physical training, what physical education is given in your school?—Besides lessons in gymnastics, the pupils receive a weekly lesson in dancing, in connection with which physical exercises with expanders are given. The pupils have generally ten or twelve minutes devoted to exercise with expanders, which develop the chest and lead to graceful movement and attitude. They have also an hour weekly devoted to pianoforte music. The pupils in the elementary department (from five to eight years of age) receive lessons in musical drill, marching, etc., besides action songs and regular dancing lessons. Musical drill is conducted by the mistresses of the elementary department. They have lessons in dancing more frequently than the others. Physical education.

11,045. What are the results of your experience regarding physical training, games, etc.?—Experience proves that the brightest and ablest pupils are those who can take a good position in class and at the same time take their full share in games with the best of their companions. The classes which are brightest intellectually are also the keenest at their drill and at their games. Among the elder girls we find a few who are awkward and dull at games, and to whom the mere thought of gymnastics is repulsive, but this is generally because need for study in preparation for examinations has become more pressing year by year, until through neglect of games and exercise of all kinds, they have become largely unable to enjoy them. The number of such pupils, however, becomes fewer year by year, who will become fewer because the pupils are now getting physical training from their earliest years practically, and they enjoy it and wish to have it continued. Experience.

11,046. Are they at present sufficiently organised and supervised?—Yes, I think they are. Every class spends from fifteen to twenty-five minutes daily in the recreation hall, a room measuring ninety-one feet by twenty-four feet, where various games, such as skipping, etc., are engaged in. The hall is well lighted and well ventilated, and is quite isolated from the classrooms, so that any unavoidable noise in no way interferes with the work of the school. While in the hall the largest possible freedom is allowed to the pupils. Class governesses are present, but are not expected to supervise the games, or to take any active interference in them. Pupils enjoy their games more thoroughly, and derive more benefit from them, when they are left to themselves. Too much system and regulation is undesirable. Organisation: sufficient at present.

11,047. Are the teachers themselves duly qualified and instructed?—As before stated, the teachers of drill are specially qualified.

11,048. Are the pupils examined by medical men?—The pupils are not examined by medical men, so far as the school authorities are concerned. Of course if parents wish to know whether it would be unsafe for their daughters to take physical training and gymnastics, they may get them examined and send me a note to such effect. Medical examination: none at school.

11,049. Have you often got such notes?—Not often.

11,050. You assume that every girl that comes is in a fit state for the exercise she has to do?—Unless we have intimation to the contrary. If a drill teacher sees that a girl is unduly fatigued, then she takes notice of that and allows a longer rest.

11,051. When did you last have a teacher noticing that?—We have it occasionally throughout the session. They are exceedingly watchful in that way.

11,052. Are you informed?—Yes, but not in all cases. They may take the matter into their own hands and dispose of it, as they are quite reliable and trustworthy in that respect.

11,053. Is it a frequent occurrence?—It is very rare.

11,054. Is a school register kept, showing the height, weight, chest girth, spirometry, biceps girth, and general physical development of the pupils?—No school register showing heights, etc., is kept. School register: none kept.

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11,055. What remedies or suggestions have you to propose regarding the last part of the terms of Reference, viz., how the existing opportunities for physical training may be increased by continuation classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus to contribute towards the sources of national strength?—In order to counteract the tendency to aimless loafing and lounging, indulged in by young lads, both in towns and in rural districts, every means should be used to render gymnastics a popular subject in continuation classes. I have experience both of country districts and towns, as I spent the first eighteen years of my life in a country village, and I know how aimlessly many of the young fellows spend their evenings and spare hours. I think it would be a very beneficial thing in every way if they could be interested in this. Young lads from fourteen to eighteen or nineteen could not spend their spare time more profitably. Public gymnasia should be provided by local authorities, and, where possible, volunteer drill halls should be rendered available when not otherwise required.

Continuation classes: public gymnasia.

11,056. *By Sir Thomas Glen Coats.*—Is yours a day school?—Yes.

11,057. How many hours a week do your pupils attend work?—The elementary pupils attend four and a half hours a day, some of the juniors attend five hours, and all the seniors and the majority of the juniors attend six hours.

11,058. What are their hours?—From nine to three.

Training: bad effects not observed.

11,059. Can all the older girls take this physical training continuously without injury to their health, and do all the girls take this physical training daily?—They only have it once a week.

11,060. Certain girls, of course, would require to be excused?—Very few.

11,061. You have never seen any bad effects?—No, the very opposite.

Lectures on physiology, etc.

11,062. *By Mr Shaw Stewart.*—Do you give short lectures and explanations on physical training?—The teachers of gymnastics are continually giving hints and explanations as they arise in the course of their lessons. I have over and over again been present when they have been engaged in doing so, and I have heard them give the girls hints of the utmost value as to the preservation of health, not only during school but after school.

11,063. And also information as to the intention of the different physical exercises?—Yes, they do the work most intelligently. It is not at all mechanical.

Gradation of classes.

11,064. *By Mr Fergusson.*—You spoke about reclassifying your classes for physical exercise. Do you think that that is practicable in ordinary schools? Would it not cause great disorganisation of school work, for instance, in an ordinary elementary Board School?—I would not like to speak authoritatively on the matter, but we certainly have an advantage and privilege over the smaller schools in that way, in that with our large numbers we are able to re-classify.

11,065. You think that it is desirable if it can be done, but there are difficulties?—If it can be done it is exceedingly necessary. We did not do it until two years ago, and the effect has been very apparent since. Good pupils get ahead and feel that they are making progress, whereas formerly they were kept back by the slower pupils being associated with them in the class.

Training beneficial in curing defects.

11,066. You speak about special cases, such as curvature of the spine, having special attention paid them. Is it your view that physical training is very beneficial in curing these cases?—Yes, we have found that over and over again.

11,067. You look upon that as a very important point in physical training, that it may at an early age, if taken in time, cure these defects, which, if not attended to, would be very serious in after life?—Yes, it is exceedingly valuable.

Compulsion: attraction preferable.

11,068. You speak with great experience, having seen the evil of lads loafing about and doing nothing, and you think that physical training and gymnastics from fourteen to eighteen would be very beneficial. Do you think that that could be made compulsory after school age?—Personally I am afraid that the element of compulsion would be objected to by the country lads and the country people to begin with.

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11,069. How would you propose to attain what you consider to be a most desirable object?—If local people of influence, employers of labour, farmers, and manufacturers could be heartily interested in the work, and would use their influence in inducing the young lads to attend these classes, I think it would be more beneficial than trying to compel them to attend.

11,070. You would like to see them made as attractive and popular as possible, and would thus hope to induce the lads to attend?—I think the ultimate result would be more satisfactory if the element of compulsion were kept in the background, and if they were induced in every possible way.

11,071. You made the interesting remark in speaking of your experience in school that your schoolmaster used to give you simple exercises for a few minutes in the middle of your lessons. Looking back to that, do you feel that these few minutes were of great benefit?—Yes, most certainly.

11,072. Such a thing is very simply carried out?—Yes, and I have carried it out. I was for nearly five years one of the teachers in Moray House, with large classes ranging from 100 to 140, and when I had a long lesson in hand, and when the pupils began to get fagged and to lack interest in their work, I have seen two minutes spent in that way put them all right again.

Daily training.

11,073. That is a strong argument in having physical training every day in short doses instead of once a week?—It is certainly ideal wherever it is practicable.

11,074. There seems nothing very difficult in what you suggest, or even in going a little further. A minute or two can always be found?—It is practised by the teachers in many cases.

11,075. Do you think in the class of schools, of which yours is one, there is more physical training than in the other schools throughout the country which you have knowledge of, and which deal with the same class of pupils?—I am afraid I am not in a position to speak authoritatively on the matter. I cannot say what the average length of time devoted to drill now is in Board Schools.

Seconda schools: sufficien training demand public opinion.

11,076. I am talking of schools such as yours?—I know that St George's practising school in Melville Street devotes quite as long a time.

11,077. Do you know any school dealing with children such as yours where you would say that physical training is much neglected?—I would not like to name any.

11,078. I don't want you to specify any, but do you know if there are any such schools?—I don't know.

11,079. I wanted to know whether you thought that there was any need to deal specially with schools of your class, or whether the general trend of public opinion was in favour of more physical training in secondary schools, and they were sufficiently meeting the demand?—I think that public opinion is being very rapidly developed favourably towards the whole movement, and on that ground alone I think the managers of such schools will feel it to be to their interest as well as their duty to provide physical training.

11,080. So far as you know, they are meeting that demand and progressing in that direction?—Yes.

Musical drill five eight.

11,081. *By Mr M'Crae.*—I think you said that the elementary classes got musical drill instead of the Swedish system?—Yes.

11,082. To what age would that apply?—From five to eight.

11,083. Up to eight years it is all done to music?—Yes, practically.

11,084. Have you any particular system of drill?—It is just the ordinary musical drill that is given in all infant departments of schools.

11,085. You think that they could not take up the Swedish form of drill before that age?—They did get lessons in Swedish drill for several years while the drill was given by the teachers from Sweden; but the last

teacher we had recommended me very strongly to discontinue Swedish drill with the elementary pupils, and to let them have musical drill alone, as she thought that they were not quite old enough to benefit from the simplest exercise that they got.

11,086. They recommended that until a child was eight years of age it should not be practised in Swedish drill?—Yes; and that was an opinion gained from experience.

11,087. You say that a uniform system of physical training is neither desirable nor necessary. Eliminate for a moment the secondary schools: can you give us any opinion with regard to a uniform system throughout the Board Schools?—One can easily suggest various arguments in favour of a uniform system, such as that pupils move so frequently from one Board School to another; and certainly, if there was a system, perhaps not absolutely uniform, but founded on similar principles and following certain lines, all over the country, there would be less dislocation when pupils were removed from one school to another.

11,088. That would be an advantage?—Yes, a decided advantage.

11,089. What do you mean by saying that the locality should determine whether there should be uniformity or not?—What is suitable for a country boy may not be exactly what a town boy would benefit from. Country pupils are slower in their movements altogether, and they have often physical exercise of another kind which the town pupils do not have.

11,090. The local distinction would only be between town and country?—Practically.

11,091. You say that the more pressing demands by curriculum subjects are rather against getting more physical training. Do you think that it would be advisable to somewhat reduce those demands so as to give an opportunity for more physical training?—Personally, both as a teacher and as a father, I should prefer that the demands made upon growing boys and girls were lessened in the way of school subjects, and that longer time should be devoted to physical training; but our best pupils work with the university as their goal, and in order to get into the university and to qualify themselves for graduation, they must pass a preliminary examination in five subjects. We find that it is all we can do to get them prepared for that, so that they may go direct from the school to the university. In the higher schools we find it exceedingly difficult to spare the time for physical training.

11,092. *By Sir Henry Craik.*—You have no suggestion to make as to any alteration in the rules of the Department in regard to the curriculum? In fact, we impose no rules on you?—No rules are imposed, but the necessities of the entrance examination of the university practically impose rules.

11,093. Don't you qualify your pupils chiefly by leaving certificates?—Yes.

11,094. These five subjects may be taken in more than one year?—Yes, they are taken in more than one year.

11,095. Still you think that they impose too great pressure?—It is often forgotten that girls have demands on their time which boys do not have. For example, until within the last year or two of school attendance there are two or three hours a week devoted to sewing, and one hour a week devoted to pianoforte.

11,096. Is it necessary for girls of that age who are entering the university to have so much time devoted to sewing?—They discontinue sewing two or three years before they leave school in the case of those who look forward to a university course, but very often the girl or her parents have not absolutely made up their minds as to whether she will go to the university until within a year or two from the time she leaves school, and in that case the school authorities hesitate about asking her to discontinue her sewing unless a request is made by the parents.

11,097. You are aware that the Department has rather indicated that such subjects might be dropped in the later years?—That is quite true, but if we were to make arrangements for entirely discontinuing such subjects as needlework, there would be an outcry against it, and our education would be pointed to as being very one-sided. In fact it is already said that our education is to too great an extent a literary education, and too little practical in its character.

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opinion, not of Department.

11,098. The alteration in that you leave more time for physical training and reduce the other work is a change in public opinion or is an action on the part of the school authorities. There is no general regulation to prevent it?—No, but we cannot go too far ahead of public opinion.

11,099. Your fear is of public opinion and not of any hard and fast rule laid down by the Department?—The interests of our best pupils are also at stake.

11,100. What I want you to answer is this: it is not any rule in the code of the Department which you are obeying, but what you believe to be in the interests of the pupils or in accordance with public opinion?—They have laid no rules down, but they have instituted a series of examinations which demand a high standard of attainment.

11,101. But the Department does not require the five subjects to be taken?—No, but our best pupils through the Department examinations qualify for the university preliminary, and the university authorities require them.

Playground.

11,102. We will go to another subject now. Your school has very little playground accommodation?—We have none.

11,103. You supply the place of games very largely by this systematic physical exercise?—Yes.

11,104. Would you prefer to have a larger playground and to dispense to some extent with this physical exercise, or do you think that physical exercises have an advantage which even the games do not have?—I think, as far as our girls are concerned, with the physical exercises they have, and the large recreation room that is at their service, on many days of the year they are better off than if we had a playground.

11,105. About a year or two ago I had the advantage of seeing the exercises conducted by your ladies. All your ladies have gone through a very elaborate course of physical training?—Yes, a two years' course.

Expert teacher.

11,106. Are you aware of any other schools which employ a teacher with the same amount of training?—St George's School in Melville Street.

11,107. They use the same ladies?—Yes, and also the Ministers' Daughters' College.

11,108. It would be hardly possible to have them in an ordinary elementary school?—I don't see why it should not be. The salaries are not prohibitive.

11,109. Do you charge a special fee for it?—We have no special fee.

Training of girls: dangers; lady teachers well qualified.

11,110. *By Mr Fergusson.*—Perhaps you might run through the evidence given by Dr Milne Murray. (Question 10,208.) Do you find any difficulties arising from that, and how do you deal with them?—We have no difficulties, because our teachers are thoroughly well up in physiology, which forms part of their training at Dartford Heath College. A very important part of their training is a knowledge of anatomy and physiology.

11,111. *By the Chairman.*—The sex of the teachers being what?—They are all lady teachers. Of course these young ladies know perfectly well what the results would be.

11,112. *By Mr Fergusson.*—Dr Milne Murray rather suggested to us that the girls were very reticent about saying anything, and the teacher had no knowledge?—That is quite true. I can understand that they are very reticent about it, but I am quite satisfied of this, that the teachers will notice it from certain appearances, and from the fact that the girls may be more listless and may not put the same spirit into their work, and without saying a word about it they will make the necessary arrangements. My experience of these teachers is that we have no more sympathetic or intelligent members on our staff than the ladies who are teaching physical training.

11,113. Then you don't think that any other arrangements should be made than calling the attention of the

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teachers to the fact that very special care is required?—I know that that point is very fully, carefully, and systematically impressed on them by Madame Österberg and other members of her staff.

11,114. Is there anything in your course of physical exercise that might be bad for girls under these conditions?—That is one of the strong and good features of the Ling system, that none of the exercises are violent. None of them involves any strain unless they are continued too long. Whenever there is the slightest appearance of overstrain they stop.

11,115. Would the danger arise when you were conducting gymnastics with apparatus?—That is never severe, nor is it continued long at a time. Their lesson is generally divided into three parts—drill, exercises, and gymnastics.

Teachers and parents: frank co-operation.

11,116. In practice you have no difficulty in dealing with what Dr Milne Murray refers to?—No. With regard to what he says about co-operation between parents and teachers, we have no difficulty, because the parents take us most frankly into their confidence when the health of the pupil is concerned. They know perfectly well that if they call upon the lady superintendent or myself, or the teachers of drill, and make any representation of that kind, the matter will be carefully noted and attended to.

11,117. And they do that?—Yes, regularly throughout the session.

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11,118. *By the Hon. Thomas Cochrane.*—In the case of a Board School, where there is not the same opportunity of supervision as there is in your school, would any difficulty arise?—I could quite understand that in the case of an unintelligent teacher, who did his or her work mechanically—I can understand it in the case of a male teacher putting a mixed class of boys and girls through the physical exercise, where a girl might be subjected to exercises which were not suitable for her condition at the time. In our case we have not the slightest fear of that, because the ladies are so kindly and sympathetic and know the human system so well.

Board Schools: girls: precautio necessary.

11,119. It is a point that ought to be considered?—Certainly with mixed classes, and where the whole staff of the school take part in the physical training it is very important.

11,120. *By Sir Henry Craik.*—What are the salaries that you pay to these ladies?—They accept nothing less than £100. Madame Österberg makes that a condition.

Lady instruct salaries.

11,121. They are paid by other schools as well?—All her students get £100 to begin with. We have one just now beginning at £100 and another at £110.

11,122. Madame Österberg herself gets very much more than that?—Yes, the school is her own

The witness withdrew.

Mr A. Gillanders.

Mr Andrew Gillanders, examined.

Mr Gillan

11,123. *By the Chairman.*—You are headmaster of the Public School at Portree?—Yes.

11,124. Would you kindly read over your statement of evidence?—I am headmaster of the Portree Public School in Skye, and have held that position since January 1882.

The school is a mixed one, with a roll, at the close of last session, of 120 boys and 127 girls. The average attendance is 205.

In addition to the elementary department there is an advanced department, with an average attendance of twenty-five, in which instruction is given in the usual branches of English, mathematics, ancient and modern languages, the curriculum being arranged to meet the requirements for the Leaving Certificate examinations of the Scotch Education Department.

Centre school.

The school is recognised as a 'centre' school under the scheme of the Inverness-shire County Committee on Secondary Education and under the scheme of the Trust for Education in the Highlands and Islands of Scotland, from both of which bodies subsidies are received towards the promoting of secondary education in the district.

Ages.

The ages of the pupils range from five to eighteen years.

The parents of the pupils are, on the whole, in comfortable circumstances, and are by vocation mainly tradespeople, labourers, fishermen, and crofters; but a number have difficulty in finding steady employment.

Feeding.

The majority of the children are well-fed, but one cannot fail to notice from the pinched faces of a number of them that considerable poverty prevails. Tea, with a piece of dry bread, is too often made to pass for a meal, and many children do not get, as often as they should, the porridge and broth that promote health and build up the constitution. It is a remarkable fact, however, that many of the children who look ill-fed and bloodless grow up to be strong, healthy men and women.

Remarkable development.

The school serves for the children of Portree and the crofting districts about the town. A number of country pupils holding bursaries lodge in the town, and about twelve children walk a distance of three miles daily to school.

No meals are supplied by the school authorities, but the parents of children coming from a distance make provision among friends in the town for having a warm meal supplied to their children at the interval for dinner.

Taken as a whole, the children appear well clothed, clean, and tidy, but some are poorly clad. I would remark that there has been a vast improvement in the clothing and general tidy appearance of the children in the last twenty years.

Clothin great impro

The time-table of the school is drawn up with a view to providing an adequate literary education. In the elementary department prominence is given to the teaching of English, arithmetic, and composition. The scheme of work is drawn up to enable the pupil to qualify as early as possible for the Merit Certificate, which is regarded as the Leaving Certificate of the elementary school, certifying as it does that the pupil has received efficient instruction in reading, writing, and arithmetic, and the class subjects of nature knowledge, geography, and British history. About five hours a week are devoted to arithmetic, seven hours to reading and English, three hours to writing and composition, two hours to drawing, and the rest to nature knowledge, geography, history, drill, Bible knowledge, sewing (for girls), and the first stages of Latin, French, and mathematics to the senior division, preparatory to their entering the advanced department.

Time-t

Prominence is given also to the literary side of school work in the advanced department, and the work is based on the requirements for the Leaving Certificate examinations. The time devoted to English is from seven to eight hours a week; junior Latin, four hours; senior, about seven hours; French, four hours; German, three hours; mathematics, junior, four hours; senior, six hours. The other subjects in which instruction is given are drawing, singing, drill.

Physical exercises have been taught for upwards of twelve years with pianoforte music as accompaniment. The exercises are graduated in number and difficulty, and are taught by the infant mistress to the junior division and to infants, and by other certificated assistants, male and female, to the senior division.

Physi exerci music

The exercises are those of Cruden's system, which I find very suitable. Wooden dumb-bells are used.

Crude syster

Easy exercises in military drill are given to the boys of the senior division and advanced department in addition to the ordinary physical drill. This class is taught for about three-quarters of an hour once a week by myself. This form of drill is highly popular with the boys, who tire of the repetition of free-arm and dumb-bell exercises, perhaps because of want of variety in the exercises, most of which can be learned in the junior standards.

Milita

My experience as a Volunteer for nine years in the Seaforth Highlanders has been of great value to me in teaching this class.

Military drill takes the form of turnings, forming fours, marching, with easy formations while on the march. It is performed in the school playground. We have a little park adjoining the school, which will be useful by-and-bye if we get it levelled, but want of money prevents that in the meantime. We use it for marching just now.

This part of school work proves very attractive to boys, and comes as a welcome relaxation after the strain of mental work. It is of great value in the securing and maintaining of good order and discipline, while it improves the children's health and physique.

As showing how much the pupils get interested in this form of drill, I may state that three years ago the boys of the senior division, on their own initiative, formed a kind of cadet corps. By means of contributions received from friends in the town, they supplied themselves with cheap helmets, belts, wooden guns and bayonets. They had a regular staff of officers and non-commissioned officers, and continued their drill under the supervision of a non-commissioned officer of the local Volunteer company. The movement was not continued the following year owing to the absence of an enthusiastic leader, but many of these boys are now efficient members of the Volunteer company. The boys have an opportunity of seeing the local Volunteers drill three times a week for two months of the year, and they are greatly interested in the different movements. Nearly every young lad in Portree becomes a Volunteer on reaching the age of seventeen years. For the last few years three or four of my senior pupils have been enrolled as Volunteers in the local company. These are exempted from drill at school, but they prefer to fall in with the other pupils at school drill.

The only games that are organised are those of shinty and football. In the winter months the well-known Highland game of shinty is chiefly played. It is the most popular of all our games, and all the boys take part in it in the school playground. On Saturdays competitions are usually held among the scholars, and occasionally with the scholars of a neighbouring school. We have no danger with big and little boys at shinty, as we have two clubs.

The pupils have the use of a public recreation ground which has been rented by the Parish Council of Portree, and they engage in the games of shinty, football, and (a few) cricket in the evenings and on Saturdays. The recreation ground is situated at some little distance from the school premises, and it was found not to be convenient for games during school intervals, as the boys, carried away by the excitement of the game, did not always appear punctually at the hour of assembling of the classes. There is an organised athletic club.

Only recently the School Board of Portree acquired the use of a small field adjoining the school playground to encourage the development of games and physical training, but as it is very uneven and the Board does not see its way to spend the ratepayers' money to any great extent in an already heavily-burdened parish in levelling the ground and in putting a boundary wall around it, it is hardly suitable for the proper carrying on of any game. Still it is an improvement, and some movements in advanced physical drill may be carried out there.

Unfortunately there is no covered-in gymnasium connected with the school, which is absolutely necessary if physical drill is to be carried on successfully all the year round. The weather as a rule is so wet and stormy in winter that drill is confined for the most part in that season to free-arm and dumb-bell exercises in the school class-rooms. In the summer months military drill is given outside when weather permits.

As showing that the School Board are fully alive to the importance of physical training and to the benefits to be derived from it in the case of all pupils, I might here mention that three years ago the Board received a circular from the officer commanding the 72nd and 79th Regimental District at Inverness with reference to proposals to establish a uniform system of physical training in all Scotch schools. The proposition was that the Board agree (1) to accept physical training as a part of the curriculum in Scotch schools, (2) to determine with the advice of their medical authorities what measure of physical training may be adopted daily, (3) to determine the source from which instructors should be drawn. At the same time assistance was offered by lending trained men who might instruct the scholars in those physical exercises which had been successfully adopted in the army, or by affording those engaged in teaching drill in schools an opportunity of learning at the military station of the district what had been recently taught in military gymnasia.

Uniform system: proposed scheme delayed.

The School Board replied that they highly approved of the proposal contained in the circular, and expressed their readiness to accept the assistance tendered.

But there arose the difficulty of carrying out the proposal from the fact that there was no gymnasium, and the School Board communicated with the Congested Districts Board to ascertain whether a grant of money could be made to the School Board for the purpose of the equipment of their school at Portree, which was the central school for the district, with a gymnasium, with a view to the physical training of their pupils on the lines recommended by the General Commanding the Forces in Scotland.

The Congested Districts Board replied that as the Amending Bill, which was then before Parliament, had been prevented from passing, they had no power to do what was suggested by the Portree School Board. The idea of the Bill was to give some money for technical education, to provide kitchens, laundries, and so on. It would have been a great advantage if it had been passed into law.

The matter went no further at the time, and we went simply on the old lines of giving 'adequate' physical drill.

Continuation classes have not been carried on for several years, owing, partly, to outside attractions. Volunteer recruit drills operated to some extent against their success, as lads of the required age were drawn to drill rather than to the continuation class. I believe an attempt will shortly be made to resume these classes.

Continuation classes: none, owing to counter attractions.

The careers followed by pupils after leaving school are numerous. A small percentage enters the professions, but the majority enter employments that are more immediately remunerative. Some go into the law and bank offices in Portree; others find employment in the post-office and steamboat offices and steamers; a few go to sea, and a very few join the army. The school was represented in South Africa recently by seventeen former pupils—three in the Volunteer Service Company Cameron Highlanders, two in Lovat's Scouts (one of whom was killed), three in the Cameron Highlanders (of whom one was colour-sergeant of the regiment, and received the distinguished service medal, having been mentioned in the despatches), and nine in other regiments.

Several boys enter shops, and after serving an apprenticeship, go south—usually to Glasgow—where they find employment, as do also many other boys when they learn a trade, or are strong enough to labour.

A few girls become teachers; vacancies in the post-office are much run after; a few learn dress-making; others become shop-assistants, and many enter domestic service.

There is no systematic medical examination of scholars. On thinking over the matter, I have come to the conclusion that in the interests of weaker children medical examination would be advisable, especially in the matter of eyesight. A number of my own pupils who became pupil teachers have complained of headaches, and a great many of these have likely been due to defective eyesight. In any case it might be sufficient in this direction if a pupil who claimed exemption from physical training got a medical certificate, in the same way as a pupil who claims exemption from attendance at school on

Medical examination advisable.

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the ground of ill-health has to produce a certificate from a medical practitioner that he is not in a fit state of health to attend.

Compulsion up to eighteen.

Physical training should, in my opinion, be compulsory in all schools, and it ought to be compulsory for those between the ages of fourteen and eighteen years, whether in continuation schools or otherwise. Every young man ought to be taught to feel that there is an obligation resting upon him to contribute to the 'sources of national strength,' so that in an emergency he may not be unable to bear arms and use them if required on behalf of his home and country.

After fourteen: compulsion essential.

There would be no difficulty with lads attending school, for if it were once imposed as a necessary part of the curriculum of a school, the parents and pupils would readily acquiesce. The difficulty would be with boys who as soon as they reach the age of fourteen leave school for good. These are the lads who need drill most, and whom it ought to be in the power of the School Board or other authority to supervise until they reach the age of eighteen. I am not prepared to suggest how physical training is to be made compulsory in the case of boys who have left school, but I do not think it should pass the wit of man to devise a scheme that would work satisfactorily. I think it ought to be left to the School Board, or some other authority, and I would go so far as to say that that authority should keep them in tow until they are eighteen years of age.

All boys ought to be made to receive a certain number of hours of physical and military drill each session until they reach the age of seventeen or eighteen, when they would most probably enrol themselves as Volunteers or join one of the other Imperial forces.

Drill: certificates of proficiency: count towards volunteer drill.

If a scheme of physical drill were formulated for a school and approved of by the Education Department, a scholar who attended a three years' course should receive a certificate of proficiency which would exempt him if he became a Volunteer from a considerable part of the drill now given to recruits.

Physical training would not impose any unfair burden on young lads. Judging from what I have observed of the interest taken in it by our own pupils, who follow with intelligence the movements of the Volunteers at their usual drills, I think it would be extremely popular. The lads are keen to become Volunteers, and the local company has no difficulty in getting recruits, for the lads join as soon as they reach the prescribed age.

Training: good results.

Further, when they are well trained in physical exercises it has the effect of systematising their play at their games. We have had evidence of that in the case of the shinty club at Portree. They always played well in the ordinary way; but their play lacked method, and they almost invariably broke down; they did not keep up their form throughout the game. But one season they went into physical training with the instructor of the Volunteer Company, and the result was most noticeable. The training had altered matters; they could stand fatigue as they could not do before; they played a combined game, and they were able to take a leading position among the clubs of the Camanachd Association of Scotland.

Teachers: training: ordinary school staff.

Of the teachers who give instruction in physical drill, two assistants and I myself have attended classes at the training colleges, and I myself hold a certificate of proficiency as a Volunteer.

All teachers under forty years, who are not otherwise qualified, should be required to take a course of instruction in military and physical drill at centres (Art. 91), under army instructors specially qualified.

The school drill should be in the hands of the school staff.

More attention should be given to the training of young teachers at the Normal Schools in physical drill, that they may come out fully qualified to teach the subject.

Military drill.

I do not anticipate any great difficulty in the teaching of military drill if it should be introduced into schools generally. Teachers who are at all interested in this part of school work will readily acquire a knowledge of the subject and teach it successfully. The fact that they have to teach it will serve to keep the teachers up to date. As the result of our experience in the recent war, there have been many changes in Volunteer drill, and the instructors had to learn the new form of drill by themselves, without going anywhere for special instruction, and school teachers would soon master the difficulties connected with the introduction of new forms of physical drill. Still it would be a great advantage if teachers had opportunities for attending special classes for instruction.

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Uniform system: certain principl formula latitude to indiv

It would also be of immense advantage to teachers if a graduated scheme of instruction in physical training, drawn up by experts, was formulated for the whole school. The circumstances of localities vary, and so should the character of the physical training, but in all essential parts there should be uniformity. Local Boards should, while keeping to the essentials, be allowed to introduce into their scheme any forms that would help to develop the games that are popular in the district, because it is admitted that there is much physical education in the systematic playing of games.

Contin classes: scheme training would l popular.

A suitable scheme of physical training would, I believe, be highly popular as part of the curriculum of continuation classes, judging, as I have stated, from the interest evinced by the boys in the Volunteers when the latter are being drilled. Volunteering is popular with the parents, and they take an interest in the physical training given to their children at the day school.

I have never heard of a parent objecting to his son joining the Volunteers. There might be such an objection if the father thought his boy was neglecting his school education, but, as a matter of fact, the volunteer drill rarely interferes with school work, as over 90 per cent. of those becoming Volunteers have left school for good.

Experie advanta training

As the result of my experience, physical training has the effect of creating a spirit of comradeship among the scholars, of confidence in each other, and tends to the elimination of selfishness. It helps to do away with the slovenly gait and carriage so common among country children, corrects round shoulders and stooping, and conduces to mental as well as bodily alertness. It gives a power of application to work that would otherwise be lacking, and the tone and discipline of the school are greatly affected by it. In fact, physical training leads to improvement all round, and most people are now coming to recognise that an education which does little or nothing to promote the development of the bodily powers is incomplete and ineffective.

The physical education, therefore, of our boys, as an essential branch of their equipment for life, should be encouraged in every way by the educational authorities of this country, the task being, as a writer put it the other day, 'the production of a martial and physically 'well developed, not of a military population.'

Rifle sh

If I may be allowed to say so, I think that the inquiry into the practicability of introducing shooting into a course of physical training a wise one.

In my opinion it would be an advantage if provision were made for the training of all boys in the use of the rifle. It would lead to the development of good marksmanship, with the result that we would be adding greatly to our national defence.

Short ranges would have to be erected: Morris tube and other rifles with ammunition would have to be provided for the use of boys over fourteen years. This would entail an expenditure which could be met only by an adequate Government grant.

Uniform general system.

11,125. You advocate a general system more or less for all schools?—Yes.

11,126. So that if a teacher were transferred from one school to another he would be still teaching the same system?—Yes.

11,127. Whatever the system were, Cruden's system or some other system, that would be the principal reason for having one system?—Yes.

11,128. May I ask your opinion as to whether the military system would not be preferable owing to your getting so much assistance from volunteers; I mean the existing military system of the day, whatever it may be?—Yes. The preliminary parts of it, such as are suitable for boys, with a little tactics. There would be no harm in having a little tactics.

11,129. Otherwise you are quite satisfied with Cruden's system?—Yes.

11,130. I see you are fully impressed with the advantages of physical training, and you would like to see it extended to boys of between fourteen and eighteen?—Yes.

11,131. You have had a good many years' experience of physical training?—Yes, I have been teaching Cruden's system systematically for about twelve years, with a little military drill thrown in.

11,132. In those twelve years have you seen an improvement in the lads you have been teaching as a result of physical training?—Yes. The sergeant instructor of the volunteer company told me the other day that the boys he gets now from the school as volunteers are much more easily taught, and he attributes that to the training they get in school. He says that about half the number of regulation drills would be sufficient now for recruits.

11,133. That would be rather a means of encouraging physical training with boys who join the volunteers or militia, that they have exemption from some of the rather irksome preliminary drills?—Yes.

11,134. I think the phrase you use is that it should not pass the wit of man to devise a scheme. Have you any particular suggestions to assist us to devise a scheme by which boys between fourteen and eighteen should be attracted to join continuation classes where physical drill was given?—No, unless you made them compulsory.

11,135. How would you enforce the attendance?—I could not say, unless you give the Board power as you do for the day school.

11,136. You mean the same power as they have in the case of day schools?—Yes.

11,137. That power consists in summoning the parents and fining them?—Yes.

11,138. How could that be done in the case of a young lad of seventeen who was in employment away from his home? You would have to proceed against him as an individual?—I do not know.

11,139. These are all difficulties that the wit of man may find?—Yes, I know.

11,140. You think that so far as the schools are concerned, all school drill should be in the hands of the school staff?—Yes.

11,141. They know the pupils and understand them better?—Yes.

11,142. Would it be well that that should be supervised by an expert from time to time?—I think so, but I would not like to have a martinet coming in; I would prefer an inspector who was in sympathy with the children, a teacher who had specialised in the work.

11,143. One who would have sympathy with the teachers and the children?—Yes.

11,144. You think his higher standard would rather sharpen the training as given by the teacher?—Yes.

11,145. You do not think there is any difficulty in the ordinary school teacher learning sufficient physical drill to impart it to the pupils?—No.

11,146. You are fortified by the fact that a good many of the volunteers have picked up the new drill very easily? Yes.

11,147. It has been very much simplified?—Yes.

11,148. The parents in your district take a great interest in volunteering?—Yes.

11,149. They also take an interest in physical training?—Yes.

11,150. You would have no difficulty, so far as they are concerned, if you showed them the advantages?—I would have no opposition.

11,151. It is an improvement in every way, and it helps to do away with slovenly gait and carriage?—Yes.

11,152. You think that the blot on the present educational system is that, while it educates the mind it has not done enough for the body?—That is so.

Rifle shooting: Morris tube.

11,153. You advocate short ranges with the Morris tube?—Yes.

11,154. Do boys like that?—Yes, they have opportunities of practising with the volunteer instructor, and it is very popular.

11,155. Have you ever shot with a Morris tube yourself?—Yes.

11,156. Did it improve your work at the long range?—It improved the sight. When I learned shooting the Morris tube was not in vogue.

11,157. But you have worked with it, and you have found that it made you more acquainted with the use of the rifle?—Yes.

11,158. It is a fine training for the eye?—Yes.

11,159. Even for a boy who did not want to adopt any military form of profession, you think it would be of assistance to him in other occupations in which accuracy of eye would be required?—Yes.

Physical instruction helps games.

11,160. *By Sir Henry Craik.*—You think that, as a means of developing games, this physical instruction is necessary?—Yes.

11,161. You find that it greatly helps the games?—Yes.

11,162. It would not do to trust entirely to the games without such physical instruction?—No, the games would get somewhat wild.

Games.

11,163. You speak of shinty as being a common game?—Yes.

11,164. There is a game that one of the teachers spoke of as the war game. Do you know it?—It is not very common in Skye.

11,165. It is a good game for giving notions of distance and so on?—Yes.

11,166. It is not practised with you?—No. Rounders is one of our games.

11,167. You say that the boys are greatly interested in the volunteering movement, and that they join when they get to the proper age?—That is so.

Cadet corps.

11,168. Have you ever attempted to form a cadet corps?—No.

11,169. What are the objections to a cadet corps?—There are no objections. The boys took it up one year on their own initiative and it was very successful, but it fell through owing to the want of an enthusiastic leader to keep it going.

11,170. You have nothing to bring before our notice which raises a difficulty?—No, there is no difficulty if it is taken up properly.

11,171. You are aware that three-fourths of the expense is borne by the Government?—Yes.

11,172. You think that inspection of this physical training would be best carried out, not by a specialist, but by someone acquainted with the general work of the school who had gone through a careful preliminary training?—Yes.

11,173. You think that that would be better than a specialist?—Yes.

Town children: suggested holiday courses.

11,174. I would like to ask you one question on a subject which has not been touched in your evidence. Do you think it would be possible to bring down children occasionally during their holidays to such a place as Portree and to quarter them in the school?—I think so.

11,175. Have you ever had any such plan put before you?—No.

11,176. Are you aware that it has been occasionally carried out in England?—I was not aware.

11,177. How would it be received in Portree?—I think it would be received with interest.

11,178. There are about six weeks when you do not use the school at all?—That is so. I think the people would be rather attracted by it. Is it with an idea of developing drill?

11,179. It is just to give them open air and health conditions and such training as they might have if they are removed from their surroundings in towns. It has been tried with great success among the London boys.

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You think that such a thing would be welcomed in a place like Portree?—I think it would.

11,180. And would such assistance as lay within your power be given?—Yes, I am sure our Board would do everything in their power.

11,181. You say that you do keep a few boys up to eighteen in your school?—Yes.

11,182. That is exceptional?—Yes, they are preparing for some examination, for the law and the university.

11,183. I notice you state the employments of those who leave school earlier. All the employments you mention seem to imply that they leave the place?—No, I mean that they go to offices in the town of Portree.

Girls.

11,184. *By Sir Thomas Glen Coats.*—You have told us a good deal about the physical exercises and drill given to the boys, but you have not said very much about the girls. Do they get the same kind of physical exercise as the boys?—Yes.

11,185. Do they like it?—Yes.

11,186. Have you found it to be of very considerable advantage to them?—Yes.

Army: enlistment decreasing.

11,187. Do many of your boys go into the army?—Not many. Skye boys are off regarding the army.

11,188. There used to be a great many who went into the army?—Yes.

11,189. How do you account for that decrease?—I cannot account for it, and I have been making inquiries all round. Perhaps the remuneration is not so tempting. When the Lovat Scouts were raised the enhanced pay induced a great many to volunteer. I think that more volunteered from Skye than were taken. A good many of our more enterprising young men leave early for Glasgow, where they get remunerative employment.

Children: rapid development.

11,190. The evidence you have given with regard to delicate children turning out strong men and women is the same as we have had from several witnesses from the Highlands. How do you account for these delicate children becoming strong men and women?—I think it is due to their being so much in the open air afterwards.

11,191. Are they better fed afterwards?—Yes, I think so, when they begin to earn a little.

11,192. Do you think that that is the reason of it?—I don't know.

11,193. You do not trace it to the amount of physical exercise that you give in the schools?—Not to any great extent, but I think it has an effect in improving their appearance.

Training: advantages.

11,194. *By Mr Shaw Stewart.*—Your experience leads you to believe in physical training as being an advantage for volunteering?—Yes.

11,195. Have you also seen its advantages in industrial life afterwards apart from volunteering?—Yes, they are more steady at their employment.

11,196. Might it not lead to greater skill in handicrafts?—It should, but of course we have no industries in Portree in which we can see such effects.

11,197. But what would you say from your observation generally in travelling, and going about?—I should say that it would have a good effect.

Teachers: good training.

11,198. It would lead to good citizenship?—It should.

11,199. And so more attention should be given to the training of young teachers so that they may be fully qualified to teach the subject. If a system were provided whereby young teachers might be systematically trained and got certificates, would you anticipate a very great improvement in physical training in all schools?—Yes.

11,200. *By Mr Alston.*—What is the length of your school week?—In the advanced department it is about 30 hours and in the elementary it is about 26 hours.

Time allotted.

11,201. You have given some details as to the amount of time devoted to the various subjects. How much is devoted to physical training as apart from drill?—In the elementary department about two half hours a week, and in the advanced department about three-quarters of an hour, but I occasionally give them five minutes.

11,202. You give three-quarters of an hour in addition to drill?—That is what I mean. Those in the senior department get three-quarters of an hour military drill along with the advanced department.

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11,203. The system that you have been using is Cruden's?—Yes.

Cruden system be latit

11,204. Have you found that to be a very complete system?—Yes.

11,205. You have not tried the Swedish system?—No.

11,206. Would you approve of a uniform system being adopted in all schools?—Yes.

11,207. You would not find that a disadvantage?—No, I think that the boys in the country would be capable of learning all that town boys would learn.

11,208. Does Cruden's system supply all the requirements for a course of physical training?—I think so, but I have no experience of gymnasium work.

11,209. I am speaking just of physical exercises. A good many systems have been introduced, and there is a great variety of opinion as to which is the most complete?—I have no experience of any except Cruden's.

11,210. We have a generally-expressed opinion that the teachers would not like to be tied down to one uniform system?—There should be some latitude to introduce some forms of developing such games as are most suitable for the children and for which they care.

11,211. Evidently the boys in Portree, if not in Skye, are exceedingly keen on volunteering?—That is so.

Volunte

11,212. Is that confined to your district?—I don't think so. Wherever there is a good volunteer company with popular officers they soon get up an *esprit de corps*.

11,213. You say that they are keen on joining at the earliest possible moment?—Yes.

Army: ment.

11,214. And yet very few join the army?—That is so.

11,215. Was this attempt on the part of the officer at Inverness on a line with the War Office's desire to get recruits from Skye?—I could not say.

11,216. They failed to get recruits in Skye?—That is so.

11,217. You have no reason to give for that?—No.

11,218. Is it general throughout the Highlands that the men don't enter the army freely now?—In some parts they get a large number of recruits, such as in Lewis and in Dingwall, where they get great numbers.

Continu classes: pulsion.

11,219. You say that you would propose to make continuation classes compulsory, but you don't see how that can be done?—No, but it is the only way to overtake the physical training of those boys.

11,220. Could you not make use of the interest that these boys take in volunteering?—We would have no difficulty at all in Portree.

11,221. That is to say, they would take physical training and drill as part of the continuation work, and no compulsion would be necessary in Portree. But you think there would be some difficulty in other parts of the country?—Yes.

11,222. *By Mr M'Crae.*—I think you said that in your view drill had advantages over mere physical training?—Yes.

11,223. It engenders habits of discipline?—Yes.

11,224. Although that training has made the lads very keen to join the Volunteers, still very few have joined the army?—That is so.

11,225. But so far as Skye is concerned, that training in the schools has not engendered that military spirit which some parents are afraid might be encouraged in the schools throughout the country?—That is so.

Cruden's book: m be greate variety.

11,226. *By Mr Ferguson.*—You like Cruden's book, but you complain of a want of variety in exercises. Are the exercises in Cruden's book not sufficient in variety? The complaint we have is that the Aldershot system has not sufficient variety, and we are told that there is more variety in Cruden's system. What is the want of variety that you complain of?—There is a good deal of sameness in the exercises. There should be some exercises for the lower limbs.

11,227. You think that Cruden's system might be supplemented?—Yes.

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11,228. I do not quite understand what you meant in answer to Sir Henry Craik in regard to the inspecting of physical work. I understand that you want the teachers to take physical training in schools, and you would favour a skilled person having a large district and going round now and again to see how things were getting on?—Yes, a man who had sympathy with children and who knew about the difficulties in training children. I do not think that an army instructor would do.

11,229. Are you talking of a drill sergeant or gymnastic instructor?—An officer who had specialised in drill.

11,230. Everybody has not the knowledge and advantages that you have, being a volunteer and well up in physical training. If there was not some supervision, then slovenly habits might creep in?—That is so.

11,231. Do you think that the time you devote to physical work, two half hours a week, is sufficient?—No, I do not think it is enough, but the Code is so burdened with subjects that there is a difficulty in getting the time in.

Time: daily; gymnasia necessary.

11,232. If physical training is so good, do you think that if you took another hour off some other subjects it might do good in the long run?—I think it would.

11,233. You favour daily work rather than longer intervals?—Yes.

11,234. You favour compulsory training if the wit of this Commission can devise a means, but whether it is compulsory or not, you say that gymnasia are essential for any kind of education training for lads?—Yes, the schools are not adapted for it.

11,235. It is an absolute necessity to have a gymnasium whether the training is compulsory or voluntary?—Yes.

The witness withdrew.

Sergt.-Major F. W. Craig.

Sergeant-Major F. W. Craig, examined.

11,236. *By the Hon. Thomas Cochrane.*—What is your regiment?—Royal Garrison Artillery.

11,237. You have prepared a *précis*, which the Commission have before them?—Yes.

Qualifications, etc.—Service in regular army, twenty-four years, still serving; volunteer drill instructor for last nine years; music master and physical and military drill instructor to the Nicolson Institute, Sandwick and Laxdale Public Schools under Stornoway School Board for eight years. Number of scholars about 950 between the three schools.

Ages of pupils.—From five to eighteen years.

Parents' position and vocations.—Varied; professions—tradesmen, fishermen, crofters, etc.

Cannot say if well fed, but the appearance of some of the children seems the reverse.

No meals are supplied by the school or other authorities.

Clothing fair; country and some of the town children generally barefooted.

Sandwick and Laxdale scholars live from one to two miles from school.

System of training.—Nicolson Institute: Swedish physical drill, with and without arms, and military drill. Sandwick and Laxdale: physical and military drill. In existence for eight years.

Swedish drill taught by class teachers. Physical and military drill in Institute by class teachers under my supervision; at Sandwick and Laxdale by myself, with slight assistance from teachers.

Time.—Institute, under ten years of age, 15 minutes daily; over ten years of age, 10 minutes daily.

Physical and military drill, all boys over ten years of age, 45 minutes once a week.

Sandwick and Laxdale: physical and military drill, 30 minutes, twice a week.

Military drill.—Squad drill, with intervals, single and double ranks and formations. Gymnastics: none. No apparatus. Swedish drill: 1st, 2nd and 3rd lessons. Games.—Football, cricket, rounders, handball. A reasonable amount of success.

The children, boys particularly, are greatly interested in their drill.

No accommodation inside the schools, but the Institute and Sandwick have large level playgrounds; Laxdale uneven and on a slope.

No games are organised.

There have been successful continuation classes, but no physical training attempted.

A few pupils follow the professions, others the army, navy, merchants, clerks, joiners, masons, blacksmiths, coopers, ship carpenters, marine engineers; others become quay porters, carters, with a sprinkling of loafers.

On rare occasions epidemics, such as measles, scarlet fever, and whooping cough, have forced the closing of the schools.

No medical examination of pupils.

I consider that medical examination is desirable at certain periods, should physical training become compulsory.

Compulsion advocated.

Certainly physical training should be compulsory in all schools, and also for those from fourteen to eighteen years. This is practically carried out now in the Secondary Department of the Nicolson Institute.

Teachers' training.

Teachers could learn physical training, as is now being done at Stornoway, viz., by attending a vacation class for teachers under the County Committee, or by the male teachers joining a Volunteer corps where available.

The vacation class could be taught by a retired non-commissioned officer, or, as in my own case, by a Volunteer instructor. Time: one hour *per diem* if other work has to be carried on; if not, two hours.

In the country districts there is a large amount of loafing in those between fourteen and eighteen.

I think that physical training would be popular as part of the curriculum of continuation classes.

Rifle shooting

There is no rifle club here, but it would be a great attraction to the boys between fourteen and eighteen.

Games.

Games are not popular in the outlying districts, partly through no knowledge of them; but in Stornoway and villages near hand, football and cricket seem to attract a number of lads.

If drill is taught, I should recommend the physical and military drill as laid down in Infantry Training, with apparatus for the advanced classes.

So far as I know, no objections have been expressed by parents.

Effects of training.

The effects of physical and military training have had a marked effect on the general appearance of the children; they are better set up and their discipline is excellent.

I believe the ordinary rules of health are taught by the teachers.

Playgrounds: apparatus.

In the outlying districts of the North of Scotland and Islands, if the playgrounds of the different schools had some sort of open-air apparatus, such as parallel bars, horizontal bar, and so on, to be open to the lads between fourteen and eighteen every evening after day-school hours, and that rifle clubs be instituted in each school for practice with Morris tube, I believe a great number of the lads who loaf about would be attracted to the continuation classes.

As a further incentive, certificates could be granted to those lads who have made such progress in military drill and shooting as may be determined.

11,238. *By Sir Henry Craik.*—I observe that the time taken for physical instruction rather lessens as the children advance in the school?—Yes.

11,239. Is that your own opinion, or is it due to the exigencies of the school work?—Yes.

11,240. You would rather give more time to physical instruction?—Yes.

Games.

11,241. You have no games organised in those schools?—No.

11,242. Do you think that if games were organised

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it would lessen the necessity for physical training?—I think it is better to leave the children to carry on their own games.

11,243. But the games might take the place of the physical training?—No.

Compulsion.

11,244. You think that physical training should be compulsory for those between fourteen and eighteen. To what extent is it now carried out in Stornoway?—In the Nicolson Institute all those lads have taken bursaries who have had physical training.

11,245. These are picked boys?—Yes.

11,246.—But the rank and file who have not taken bursaries do not get a chance of this?—There are a lot of boys who continue going to school although they have not got bursaries.

11,247. Those will be the better class?—No, their parents are sometimes not very well off.

11,248. And they get physical training up to the time they leave?—Yes.

11,249. In a large proportion of schools boys between fourteen and eighteen get none?—They generally leave.

11,250. There are no continuation classes in which they can get physical training?—No.

Teachers

11,251. You say that in some cases you get slight assistance from the teachers?—That is so.

11,252. Is that because they are not keen about it, or because they do not have sufficient training?—They have not got sufficient training. I get those teachers to come up while I am drilling the children, and I turn to the teachers and say: 'There is a chance 'for you, you can go through the exercise I have just 'done.'

11,253. You have never had entrusted to you any classes for teachers?—I have one now.

11,254. Under whose auspices is that class carried on?—Under the auspices of the County Committee.

Military drill: no objections.

11,255. You find no objection on the part of parents to the military drill?—No; rather the opposite.

Cadet corps.

11,256. Have you ever attempted to start a cadet corps in Stornoway?—When I was a pupil teacher in the Nicolson Institute there was a cadet corps raised by Mrs Percival, Lady Matheson's mother. After my father's death, I was put in charge of these boys as their instructor. That was the only cadet corps which was in existence there. It was not recognised by the Government.

11,257. What prevented its being recognised?—I could not say.

11,258. There has been no proposal to establish one?—No.

11,259. Would it be a good thing if it could be done?—Yes.

11,260. *By the Hon. Thomas Cochrane.*—Had they a uniform?—Yes, that was all provided by Mrs Percival.

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11,261. *By Sir Henry Craik.*—You think that rifle clubs with Morris tubes would be very useful?—The children about here are military mad.

Military spirit: no opportuni

11,262. And yet they have no opportunities?—No. If you saw those lads on parade you would agree that the way in which they do the manœuvres would be a credit to a crack corps.

11,263. And yet there is no organisation like a cadet corps?—No.

11,264. Do the boys always join the volunteers?—Yes.

Volunteer

11,265. They would be keen to join much earlier?—Yes, they would. That is why I think there should be a rifle club in connection with the school.

Rifle club certificate value.

11,266. You think that such practice as that would be very good for them, not only as increasing the vital strength of the nation, but also for their own education, training their eye and steadiness of hand and their practical adaptability?—Yes.

11,267. You would do it not so much by compulsion, although you think it ought to be applicable to all, but you would hold out the benefit of a certificate?—Yes.

11,268. What purpose would that certificate serve?—When the lad joins the volunteers as a recruit he has to do a certain number of drills. Now if he had one of these certificates I do not see why some of his drills should not be cut off.

11,269. You would have the same if they joined the army?—Yes. At present they have to go a certain number of months before they get to the higher rate of pay.

11,270. By allowing this certificate to count for that, you would be offering an inducement to the boys to go through this training, and you would also increase your recruiting resources?—That is so.

Medical examinatio

11,271. *By Mr Fergusson.*—You say that there is no medical examination of pupils. If physical training is to be much developed in schools, is there not a necessity for medical inspection?—Yes.

11,272. You are in favour of exercise being done to music?—I am against that in one sense, but I think for public purposes it pleases the parents.

11,273. For training you prefer not to have music?—Certainly.

11,274. If the boys are so 'military mad,' how is it that so few join the army?—They do join the army.

11,275. *By Sir Henry Craik.*—There is a wide difference between Skye and Stornoway?—Yes.

11,276. There is very little contact between them?—Very little indeed.

The witness withdrew.

Mr C. M. Alexander.

Mr C. M. Alexander, examined.

Mr C. M. Alexander

11,277. *By the Hon. Thomas Cochrane.*—You are headmaster of Burnmouth Public School?—Yes.

11,278. Have you taken an interest in physical training in your school?—Yes, my school is situated in the east of Berwickshire, on the coast. There is an average attendance of about 90 children, belonging mostly to the fishing community.

Drill: time.

Drill is taken twice a week, 30 minutes being allowed for each lesson.

The system of physical training here is designed to exercise the muscles of the body generally, but care is taken particularly to secure an erect, active carriage, and a general smartness of movement, and so counteract the tendency to a heavy slouching gait peculiar to their elders.

Course of instruction.

Stage I.—Pupils from five to eight years have simple free-arm exercises and extension motions, together with marching.

Stage II.—From eight to ten years the marching exercises assume easy military movements, together with free-arm exercises further developed, and twelve exercises with light dumb-bells.

Stage III.—(*a*) From ten to fourteen years the ordinary infantry squad drill is gone through.

(*b*) Dumb-bells.—A series of nine exercises combined; judging the time, Naval system. A series of thirteen exercises based on the Swedish system.

(*c*) Wands.—A set of four exercises from the Navy and Army 'Rifle Exercises with Arms.'

(*d*) A set of gymnastic exercises with movements for the arms, legs, body and lungs.

All the foregoing are taken both by girls and boys.

(*e*) In addition the boys from ten to fourteen practise the bayonet drill.

(*f*) Review exercise, with wooden guns, and the Royal Naval cutlass exercises, with single-sticks.

Improvemen noticed.

'The extent to which use is made of the existing 'opportunities' is shown by the marked improvement in the attendance of the pupils since the introduction of drill. The yearly average attendance has steadily risen, till last year it rose to 92 per cent.

There has been a most decided improvement in the general appearance and deportment of the children,

and an alacrity of movement, all of which can only be traced to the influence of the physical exercises.

No opportunity exists here for the carrying on of the training after the children leave school.

11,279. You find that physical training has a tendency to improve the general appearance of your pupils?—Yes.

11,280. And it improves them mentally and physically?—Yes, it brightens them up most astonishingly.

11,281. There is with you no opportunity for the carrying on of the training after the children have left school?—No; that is due to the fishing industry, the young men requiring to go out according to the tides, especially at crab fishing.

11,282. You would like to see something of that sort?—I tried it myself, but owing to the fact that they are irregular in going out to the fishing, I could not get a regular attendance.

11,283. Is there any other point you would like to elaborate in the statement which you have made?—No, except the question of compulsion.

11,284. What are your views on that?—I should be strongly in favour of compulsion. I show the style of drill that we go through. (*Hands in book.*)

11,285. That is the same as the naval drill?—Yes. I think that all teachers should be specially trained and certificated for this subject, both male and female, and you might appoint experts to supervise and make suggestions. There should be drill taught in every school. In seaport towns they might also be drilled in the management of boats according to the modes of the navy.

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11,286. You would set up masts and yards?—Yes, or we could take the pupils down to the harbours. All children from ten to fourteen should be formed into school brigades, and from fourteen to eighteen into Boys' Brigades. That should be compulsory, and they should be associated with the volunteers. Drill should be made compulsory for the grant being earned in evening Continuation Schools.

11,287. How would you enforce the compulsion?—Somewhat similar to the way in which we enforce the education in the Board Schools.

11,288. *By Mr Shaw Stewart.*—How would you enforce the compulsion in the case of lads having to go to the fishing?—They might get a certificate signed by a local volunteer officer or a Justice of the Peace, and if they do not have that, then treat with them in the ordinary way by punishment. Compulsion: enforcement: exemptions.

11,289. You think that it would be possible for them to attend the fishing and yet put in sufficient numbers of attendance?—Yes, if you took it for granted that their attendances would be irregular, but still they would have their spell of drill all the same.

11,290. *By the Hon. Thomas Cochrane.*—There would be some system of exemptions?—Yes, naturally.

The witness withdrew.

Mr R. W. Carson, examined. *Mr R. W. Carson.*

11,291. *By the Hon. Thomas Cochrane.*—You are headmaster of the Sanquhar Public School?—Yes.

11,292. You have put in a statement?—Yes.

During the last session we have been very much hampered both as regards drill and our other work, for since last July the Sanquhar Public School has been undergoing extensive alterations, at an estimated cost of £3500. These alterations are expected to be completed within the next four weeks, so that by the beginning of next session everything will be in good working order. There is now a good central hall, forty-two feet by twenty-two feet, which will be used as a drill hall when required. The playgrounds are of considerable extent. As soon as the alterations are complete, I expect to get some gymnastic apparatus.

On this point I am strongly of opinion that when proposed alterations in schools of a fair size are submitted for the approval of the Education Department, a small gymnasium should be insisted upon in every case as a *sine qua non*. Schools of small size should at least be supplied with parallel bars on the playgrounds, and ladders inside the shelter sheds. My experience is that School Boards as a rule will do with alacrity what is required of them by Government, whereas if the recommendation comes from the headmaster it naturally does not carry so much weight.

The following is our syllabus of drill for next session:—

(1) Advanced Department M.C. Class and Standard V.

The Board of Education's Model Course of Physical Training.

Headmaster.—Normal School diploma for drill; sergeant in Volunteers for sixteen years; two years' drill at Dumfries Academy (Saturdays).

James Cuthbertson.—Certificate Aberdeen Physical Training College; one year's drill at Dumfries.

(2) Standards IV. and III.—Formation of squad, attention, standing at ease, dressing with intervals, turnings, formations of fours, leg exercises, marching in file, free gymnastics, extension motions, bar-bells, dumb-bells.

Thomas Salmon.—Two years' drill at Dumfries.

Jessie Dalziel.—One year's drill at Dumfries.

(3) Standard II.—Formation of squad, attention, standing at ease, dressing with intervals, marching in file, free gymnastics, extension motions.

Catherine Young.—Four years' drill as pupil-teacher.

(4) Infants and Standard I.

Elsie Cameron.—Normal School diploma for drill; certificate, Aberdeen Physical Training College; certificate, Mrs Hughes' Kindergarten College, London.

Helen Chalmers.—Four years' drill as pupil-teacher.

Miss Cameron has favoured me with the following notes:—

'In the infant department physical exercises are most beneficial to young children as a relaxation from brain work and as a means of brightening them up and securing good discipline. Infants.

'I base my drill upon Aberdeen Physical Training College methods, combined with the grace and easy motion of the Swedish system.

'Varied marching and easy motions with musical accompaniment in free gymnastics, Kindergarten games, and occupations form the infant work.

'Bar-bells, dumb-bells, Mrs Hughes' garland drill, hoops, exercises in free gymnastics form the work of Standard I.

'Physical training is sadly hampered in many schools by—

'(1) Desk accommodation absorbing five-sixths of floor space.

'(2) By the individual taste of the teacher.

'(3) By lack of apparatus.

'A grant might be given, and then every playground would be well equipped with swings, parallel bars, etc.'

Owing to the alterations already referred to, we had no continuation classes last year.

I am a little doubtful of the popularity of physical exercises as part of the curriculum of a continuation school unless some special inducement, such as the formation of a shooting club in connection with the class, be held out to pupils. This club, which could practise with air-guns in the classroom, just as recruits at present do in the barrack-rooms, would, I am convinced, encourage many to join the class, and, what is of more importance, continue membership during the prescribed number of weeks, provided there were regular competitions. It might also prove a good feeder for the Volunteer corps. Continuation classes: special inducement.

Mr R. W. Carson.

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When I was a Volunteer I used to take a great interest in the men's shooting. I always remember the remark one of our crack shots—a coal-miner—made to me when talking about target practice. 'Oh,' said he, 'it's ocht that's in't,' meaning thereby that if it were not for the shooting he and many others would not be Volunteers.

Teachers: Saturday classes: difficulties.

In connection with the Saturday classes for teachers, I would like to make a suggestion.

Some teachers, well up in years, have, since last October up to the 24th May, regularly attended a class for drill every Saturday at Dumfries Academy. One teacher, aged sixty-two years, had to leave home at 7.30 a.m. and drive about five miles in a public conveyance to catch his train, arriving in Dumfries some time before the class assembled, but that was the only way he could get a suitable railway connection. Being a member of the class, I had often a talk with him and several others, who had also long distances to come, on this subject, and the conclusion we arrived at was, that for teachers distant from any centre it would be far better for Government to make arrangements whereby they could, wherever practicable, be attached to the nearest Volunteer company and get practice in drill along with the recruits.

School exhibitions.

I find that periodical school exhibitions are of great use, not only in stimulating pupils to do their best, but also in getting their parents to take an interest in this side of the school work.

When we began these exhibitions they were pooh-poohed by many, but all that is changed now, and at every exhibition we can count upon a crowded house. Indirectly we teachers derive a considerable benefit from these exhibitions, as we are able to net a good sum of money, which we are allowed by the Board to devote to some school purpose.

By the last exhibition we drew £20, which enabled us to establish a school library. Our next exhibition, which we expect to take place about Christmas, will, I hope, give us funds to buy a good piano for our central hall.

Physical exercises: beneficial.

11,293. You find that in all classes in your school physical exercises are very beneficial?—Yes.

11,294. Your lady teacher reports very favourably upon them as regards the infants?—Yes.

11,295. It brightens them up and secures good discipline?—Yes.

11,296. In fact it is better for little children sometimes than too much mental work?—Yes.

11,297. You find that physical training is hampered in many schools by the desk accommodation?—Yes.

Playground.

11,298. You would advocate some system whereby the desks should be movable?—Yes, or there should be some outside place for exercise. We have a playground extending to about two acres in which we can drill our children, and we find that to be much better.

11,299. It is far better?—Yes, both for the children and for us.

11,300. You have no difficulty in retaining their attention outside?—No.

11,301. You say in your statement that physical training is sometimes hampered by the individual taste of the teachers?—That is Miss Cameron's statement: she said that some teachers had little bits of fads. An inspector of schools was talking over the matter with me, and he spoke about the physical training in one school where the teacher just taught his scholars to salute, and he asked where the physical training came in.

System: should be formulated.

11,302. You are in favour of some system being laid down by the Education Department?—Yes. The model scheme is a capital one.

11,303. It should be adhered to as far as possible?—That is what I do. I don't know anything better.

11,304. You are rather doubtful about physical exercises in the continuation school?—Yes, the lads have been working all day, and unless you give them some inducement they won't come. We have had experience of air-gun competitions in bazaars, and we have had no difficulty in raising £20 a week, charging sixpence for five shots.

Continuation classes: be inducements.

11,305. You have raised £20 through the shooting alone?—Yes, we have done it several times. One man will give a prize of perhaps the value of 10s., another 5s., and another 2s. 6d., and then we have a competition with the air-gun at a range of about thirty feet, charging sixpence for five shots. We have secured over £20 on three or four occasions.

11,306. In addition to that you give exhibitions of physical training?—Yes.

11,307. Those exhibitions are very popular with the parents?—Yes, I have never heard of any objection to them.

11,308. You also drew £20 by one of those exhibitions?—Yes, we have done it twice.

11,309. You seem to be in a thriving condition?—Yes.

11,310. The parents take an interest in the physical training of their children?—Yes.

Teachers' training.

11,311. There is a suggestion made by Miss Cameron that some arrangement should be made for the travelling expenses of teachers being on a more liberal scale?—That is my statement.

11,312. You would like some system by which the teacher should be trained in physical training by the nearest volunteer company?—Yes.

11,313. You think that that would be an inexpensive system?—Yes, and it would be more effective and better for many who are up a bit.

Expert inspector.

11,314. *By Mr Fergusson.*—What sort of inspection, if any, would you like of your physical work. You say that teachers should teach the children. Would you not like a trained expert to come round now and again and see how you are getting on?—Yes, I meant to suggest that. If you got a man to go round a certain district I would prefer him to be a teacher himself, so that he might get on with the other teachers and see how they are doing, and give hints. That, I think, would be of great service.

Medical examination.

11,315. Have you ever found any need of medical inspection? Would you like that there should be any form of medical inspection if physical training is to be more developed?—Ninety per cent. or more of the children are thoroughly healthy.

11,316. But might there not be defects that you cannot see, something wrong with the heart or something of that sort which might be put right, and which, if not attended to, might injure the child very much?—Yes. Of course I would like them to be examined, so that I might be prevented from hurting them through any physical drill.

Time: half hour per diem.

11,317. How much time would you like to give to physical training?—I think fifteen minutes in the forenoon and fifteen minutes in the afternoon—half an hour per day split up into two periods.

Teachers' class.

11,318. *By Sir Henry Craik.*—You speak of the class that was held for teachers at Dumfries Academy. On the whole, was that successful?—Yes.

11,319. You think, however, that it would be more convenient if the instruction could be obtained at the nearest volunteer company?—Yes.

11,320. Has any proposal of that sort been formulated?—No. We have only had a talk about it.

11,321. If any scheme could be put before us which could be brought within the words of the Article, then the Department would readily consider it?—It would be for the County Council to do so.

11,322. Yes, and if the Article were made to cover the instruction at a volunteer centre, I don't see anything that would prevent it?—I think it would be very good for lots of men.

The witness withdrew

Mr D. F. Lowe, M.A., LL.D., examined.

11,323. *By the Hon. Thomas Cochrane.*—You are headmaster of George Heriot's School, Edinburgh?—Yes.

11,324. Perhaps you will kindly read your statement?

I am a Master of Arts, as well as an honorary Doctor of Laws of Edinburgh University. I held assistant masterships in various schools, and in 1873 became Rector of Bathgate Academy, where I remained for seven years. In 1880 I was appointed House Governor and Headmaster of Heriot's Hospital, Edinburgh, and again in 1886, under the amended scheme for the administration of Heriot's Trust, when the institution was opened as a day school for fee-paying pupils, I received the appointment of Headmaster of the school.

George Heriot's School is a secondary school, essentially modern in its organisation, with fully-equipped science and technical sides.

The scholars are drawn chiefly from families of the lower middle and skilled artisan classes, and while a large majority are Edinburgh children, there are also a considerable number of pupils who come daily from towns and villages in the neighbourhood of the city.

The number on the roll averages about 950, and the ages of the boys range from about nine to seventeen.

The school stands in an open space of eight and three-quarter acres, and about one-third of this is used as playground, the remainder being laid out as lawn and shrubberies.

A new recreation field of over ten acres, and situated at Goldenacre, about a mile and a half from the school, has been set apart by the Governors of Heriot's Trust for the use of present and former pupils, for cricket, football, and school games. It occupies part of the grounds of the Trust, and has taken the place of a smaller and less convenient field. The Governors have also erected at the field a handsome pavilion for the use of the players, costing over £2000.

A well-equipped gymnasium and an excellent swimming-bath form part of the school buildings.

Full provision has, therefore, been made for the games and physical training of the boys, and they have every inducement to take advantage of the facilities offered them.

The games are organised and supervised by members of the junior staff of the school, under the direction of the headmaster. They take that supervision in turns.

Drill and gymnastics are taught to all the pupils, except those who are excused on the score of health, etc., and the instructor in these subjects devotes his whole time to the work of the school. That is to say, the instructor is a member of the regular school staff. He attends all day, and gives the whole of the day to the school work. The present teacher is Sergeant-Instructor Dalby (of the Army Gymnastic Staff, Aldershot), and his course of instruction includes—free gymnastics, dumb-bell and bar-bell exercises, marching, and squad drill. Applied gymnastics are also taught to the older boys.

Jumping, running, etc., in the playground are freely indulged in by the boys at all school intervals.

There are no school runs or paper-chases.

Manual training or handicraft forms part of the regular work of the school in its middle and upper divisions. We have both wood and iron workshops. Under a scheme the Trust obtained in 1885 we had provision for these.

Voice training receives due attention from the music-master.

We have no cadet corps, and it is difficult to see, in face of the work already occupying the school day, how time could be found for training. Where boys are resident it is quite a different matter. That difficulty as to time is the one serious difficulty all through one's endeavours to do the best one can for this subject. In the old days of Heriot's Hospital, before it became an open school, and when the boys were all in residence, they received military drill, and a number of the older boys were trained to use the carbine. The instructor was an old military man, and the training was entirely on military lines. That was done to find occupation for those boys who were in the building all day long.

Some years ago, when an inter-scholastic event had a place in the programme of the Edinburgh Volunteer shooting competitions, a team of boys used to be sent from the school, but great difficulty was experienced here, and, I believe, in other day schools also, in finding time for practice. We had Morris tube practice. We got a small target fixed up at the end of one of our play-sheds, but it was a matter for the boys to carry out in their own time—after the work of the school was over.

There is no Fire Brigade corps in the school, nor is anything done in connection with First Aid or Ambulance work.

Time for training, etc.

Physical training and swimming have one hour each per week given to them in all the classes, except those of the upper division of the school.

The lower and middle division boys are all taken in ordinary school hours, but those of the upper division take their gymnastics before the commencement of the ordinary school day, and their swimming on Saturday forenoons.

Up to fourteen, free gymnastics: after fourteen, applied gymnastics.

With reference to the relative values of free and applied gymnastics, I believe that the former is better suited for young boys, and that the latter should not be introduced as part of the training till a boy has reached fourteen or thereby.

Swimming.

Swimming is found to be an excellent training at all ages. We have very few requests to be excused from taking swimming. Sometimes if a boy has a tendency to taking colds, or there is some other health reason, he is excused, but as a rule practically all the boys take swimming.

Comparatively few seek to be excused either from gymnastics or swimming.

Benefits.

I consider that the results of physical training cannot be otherwise than beneficial, if the course of work in these subjects is carefully arranged and conducted. Training in discipline cannot but be of the very greatest value to the boys. It may be taken that discipline is a question of morals, and anything that contributes to the cultivation of obedience to authority must make for the strengthening of the moral side of a pupil's nature, just as also it cannot but aid in training and developing his intellectual powers.

System: must be considerable latitude.

It is desirable that to a certain extent there should be uniformity of system, especially in the earlier stages, but in more advanced work a teacher may very well be left to develop his course according to his own preferences. I don't think it is possible to have complete uniformity of system. A great deal must be left to the working of any system by the instructor himself. To some small extent you can have certain uniform exercises, and I think that would be desirable, but you must give a free hand to the instructor.

Daily when possible.

In circumstances where it is possible, I believe that a short daily exercise would prove of most advantage. In view, however, of general time-table requirements, this is an almost impossible arrangement. One could do it possibly in the youngest class of all. In practice it is difficult to find more than two hours weekly for this branch of work, even in the *lower* classes of a secondary day school.

Outdoor and indoor training.

My preference is for outdoor rather than indoor training. I believe that as much as possible should be done in the playground. Our playground is quite satisfactory and sufficient for that purpose.

Military drill.

In my opinion the school period of a boy's life is too early for the introduction of military drill as taught to recruits in the army. Of course, boys at school may very well be taught squad drill and the simpler parts of military drill, but as boys used to be taught in

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schools, military drill formed much too large a part of their work.

Volunteering: inducements desirable.

Every incentive should be given to lads when they have left school to become Volunteers. I was a Volunteer myself, and I should like to see volunteering receive the assistance that it deserves. I think boys should be encouraged in every way to join, but I doubt whether a precocious military training in school is the best way to induce them to enter the ranks of volunteer corps. Any *drill* should be of a kind to vary and supplement games and physical training—not to supersede these. I know the change that has taken place in military drill, making it more attractive. I think that scouting would be very attractive to boys, and I would modify my opinion to a certain extent in that direction. What I object to is the very rigid form of squad drill and mechanical exercise.

Drill supplementary to games and other training.

So far as my knowledge and experience go, I believe free gymnastics to be the best kind of physical training for school purposes.

Manual training.

Manual training is given in the school workshops, where from two to four hours a week are devoted to this subject, according to the ages and advancement of the pupils.

Training: if all round, beneficial.

In my opinion physical training, games, etc., play a very important part in school life, and, when not overdone (as the tendency rather is, I think, in these days) they cannot fail to be of the greatest value in securing for those engaging in them sound health both of body and mind. I think that is the aim we ought to have in view in dealing with this whole matter.

Games.

The organisation and supervision of the games, etc., are carefully considered and conducted. The teachers are not all equally interested in games, but a number of them are good cricketers and football players, and take an active interest in the work of the play-fields. I should say, in connection with the boys' cricket and football, that we have clubs of former pupils, both cricket and football, and we have also a club connected with the school F.P. golfers. I merely mention the last to show that an interest is taken in all outdoor games as far as possible.

I should add that the resident groundsman at the Recreation Field, who formerly played in English County cricket, instructs the boys.

Medical inspection necessary.

None of the pupils, with the exception of the Foundationers, are examined officially by a medical man, and no register is kept showing the height, weight, chest-girth, spirometry, biceps-girth, and general physical development of the pupils. I think there has been a good deal said about the effect of physical training, while the facts upon which the statements are based have not been sufficiently ascertained. We want to know more definitely what really are the effects, and I should say that I think there ought to be a medical examination of pupils from time to time, either quarterly or at the beginning and end of the session.

Register should be kept.

A register might also be kept showing the effects of physical training in this way by taking the measurements referred to.

I have no opinion to offer regarding the value of continuation classes, but it seems to me that if the work of these is to consist of applied gymnastics, only small numbers could avail themselves of even extended opportunities. If military drill be the kind of training intended to be carried on, I have already stated my preference for postponing this till it can be given as part of the work of a volunteer corps.

Measurements.

11,325. Referring to what you said about keeping a register showing the effects of physical training by taking certain measurements, would you take them from every school, or would you select schools in different parts of the country as typical?—I know that it would be a matter of very considerable difficulty to take every school.

Medical examination.

In our school we have a medical officer who is responsible for looking after the health of the foundationers. The candidates are examined when they come up, and again before they enter the school and they may be seen by the medical officer from time to time during the period they remain in school. I am sure we could arrange for some kind of examinations by the medical man. The measurement might be done by the instructor, and he could quite well keep the register. Only a little additional work would be necessary to meet the difficulty.

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11,326. It would be still more important from a statistical point of view if this were carried out by someone really qualified to take the measurements?—Yes.

11,327. I have had experience of recruits' measurements being taken, and I know that they are very apt to vary unless taken by a skilled man. I suppose you agree with me?—Yes.

11,328. It is difficult to take measurements that you can rely on for statistics?—Yes.

Continuation classes.

Then with regard to continuation classes, I think that they would probably be likely to be more successful if teachers would take an active interest in the matter, and urge their pupils, before the time for leaving school, to continue after they have left to take advantage of all opportunities for further physical training. There is no doubt a difficulty in regard to time. Many boys after leaving school attend evening classes—say in the Heriot-Watt College and elsewhere—and they have little leisure for physical training after their day's work is done.

11,329. You think, on the whole, judging from your experience, that many of the boys would like physical training?—Yes, I think we could do more if the proper spirit were fostered among the boys, and by the teachers suggesting the desirability of carrying on that kind of work.

Time.

11,330. *By Sir Henry Craik.*—You find certain difficulties in carrying on this physical work even in a school like your own?—What kind of difficulties do you refer to?

11,331. There is the difficulty of time?—Certainly, the difficulty of time is a very great one.

11,332. Of course your pupils are those who have the privilege of attending a well-endowed school with every advantage?—That is so.

11,333. You have a recreation field of ten acres, an attendant in charge of it, and a handsome pavilion?—Yes, these have been provided from the funds of the Trust.

11,334. Such an expense could hardly be faced in a State-aided school; the difficulties would be greater?—Yes.

Mental pressure: more demands.

11,335. You spoke of the difficulty in regard to time. You have had a large experience, extending over a number of years, in Scottish education: do you think that the mental pressure in the schools has increased?—I do think that we have more demands made on us now in the upper divisions of the schools than we used to have. The work is heavier, and every half-hour is very precious.

11,336. That is because the public demands are larger?—That may be.

11,337. Do you think that increased pressure has led to any depreciation in the physical training? One or two things that you said rather indicated that as being the experience in Heriot School. You had a cadet corps?—It was not a cadet corps, but the boys did have military training, and a number of the older boys were taught the ordinary carbine drill, but that was at the time when the boys lived in the Hospital. We had no Leaving Certificates in those days, nor inspections such as we have now, and the pressure was a very different kind of pressure. A good deal of that kind of thing was done in order to give variety to the boys' life. The boys' school day lasted from nine to four o'clock, and then they lived in the Hospital. They had spare time in the early evening, before preparation of lessons and so on.

11,338. You have had experience of both a residential school and a day school?—Yes.

Opportunities in schools.

11,339. Do you think that the one is better than the other in view of physical training?—I think that in the one case your opportunities are much greater. If your boys are resident you can take any spare time they may have, and use it for those purposes of which we are speaking.

11,340. They had not so many opportunities in the older days as they have now?—We had no swimming bath.

11,340A. And you had no recreation field of ten acres?—No, but we had the ground all round the Hospital as playground, on which the boys carried on their cricket and football. There were only 180 boys, so that they had plenty of room.

11,341. There was none of the lawn and shrubberies?—The lawn was used by the boys for play purposes.

11,342. *By the Hon. Thomas Cochrane.*—What system of physical training does your instructor carry out; does he adopt any special system?—No. We know about Cruden's system, Chesterton's system, and the Aldershot system. Our present instructor was at Aldershot, and is fully qualified. He is developing things on his own line, and in an exceedingly reasonable and sensible sort of way.

11,343. It will likely be based on the Aldershot system?—No; while he sees many excellences there, he does not think it the best system for boys.

11,344. Have you considered the advantage of drill in enforcing habits of discipline even in boys of school age?—I think the tendency will be to improve the discipline, but I don't know that there is any great necessity. Speaking for myself, we don't find it to be a necessity, but I have no doubt that the result will be as you say.

11,345. If it were possible to re-arrange your time-table, so as to give a little time to drill, it would be very advantageous to the pupils?—They all get drill of one kind or another. The senior boys come to the gymnasium before the ordinary school begins, and on Saturdays they go to the swimming bath. They go quite willingly on the Saturday forenoon from nine till eleven or twelve. Some of the boys who don't take swimming go to the cricket field.

11,346. You have a certain amount of drill?—Yes.

11,347. Do you think that it would be to the advantage of the pupils if the curriculum were curtailed so as to give more time for physical training?—We must consider what the Scotch Education Department has to say in regard to that. We have so many demands on us that I feel it would be almost impossible to give more time.

11,348. *By Sir Henry Craik.*—But what do we ask? I think the pressure we bring on the schools is rather against your presenting candidates for leaving certificates. We have put a restriction on the number of subjects to be taken up?—The Department is the *fons et origo*. We naturally take as many subjects as we may.

11,349. Is it not the case that we have had to decline candidates for more than a certain amount of subjects?—Yes, but I know that it takes us all our time to prepare for the subjects in which we are permitted to present pupils.

11,350 *By Mr Fergusson.*—We have been told by some people that they find that by increasing the time devoted to physical training they no doubt diminish the time devoted to book learning, but the children are so much improved that they gain even in the less time that they have for book learning. Do you believe that?—I believe that it would be a good thing if we could distribute the time over every day of the week. As it is, in the lower division of the school we give two hours, an hour to swimming and an hour to physical training.

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11,351 If that theory be correct, then you need not be so pressed. Some people say that if you give more physical training, the children in five hours will learn the same amount as they used to learn in six hours?—It is not a question of arithmetic; you cannot work it in that way. I think that, with the two hours, we are giving a fair amount of time.

11,352. In schools such as yours you are devoting sufficient attention to the subjects?—Yes, I think that nothing can be laid to our door in the way of neglecting these subjects, for which we have done a very great deal. Our governors have been so impressed by their value that we now possess that excellent playfield which I have mentioned. One would expect that where a body of managers could make a good deal of money by the feuing of such a piece of ground they would have a difficulty about giving us so much, but, as a matter of fact, they have given it, and they gave it readily.

11,353. That only refers to schools such as yours: it does not touch the Board Schools?—That is so.

11,354. *By Mr Shaw Stewart.*—Several able witnesses have told us that physical training is quite as important as mental training. Do you think that two hours a week physical exercise is sufficient time for a lad to make the best of himself in body and mind, putting aside the exigencies of the time-table?—I don't think the physical training is entirely confined to the two hours that we give; a boy has training of a kind in all the intervals between the classes, and then when he leaves school he goes to the cricket field, as many of them do.

11,355. But not all the boys?—No, you never find all the boys taking up cricket and football.

11,356. Is it not those boys that require more regulated physical training?—That is a question that I can hardly answer. It may or may not be so. Naturally a boy of high spirits, who is strong and healthy, would at once go to the cricket field, whereas a boy in a somewhat delicate state of health would avoid such a thing. The difficulty is to know what to do with such a boy. Of course the day school has a limited period for the day's work, from nine to three or four as the case may be.

11,357. You object to a uniform system. You were not considering Board Schools then?—I am speaking entirely from the point of view of my own school. I cannot speak as to the others at all.

11,358. *By Sir Henry Craik.*—You don't have any compulsory playing of games?—No. Games not compulsory.

11,359. You are aware that the compulsory playing of games obtains in many public schools?—Probably in schools where the boys are resident.

11,360. It is done in Edinburgh?—I know one school in Edinburgh where it is done, but I believe that the feeling of parents is opposed to that in a number of cases.

The witness withdrew.

Mr William Beattie, examined.

Mr W. Beattie.

11,361. *By the Hon. Thomas Cochrane.*—You are headmaster of Balquhidder Public School?—Yes.

11,362. You have handed in a statement of your intended evidence?—Yes.

I am a trained, certificated master (York, 1883–4), and have been for two years in my present position. Prior to my appointment here I was for ten years first assistant master in Jedburgh Grammar School. I may also state that I have been a successful teacher of music and organist.

Since boyhood I have taken a great part in athletic sports, and have been captain of golf, cricket, cycling, and football clubs. Since my coming here a successful effort has been made to keep children at school two years beyond the Merit Certificate stage. Recently H.M. Inspector offered to approve of this school having an advanced department with higher grants under Art. 21, but the School Board cannot at present see their way to equip the school for higher education. This school has 50 pupils on roll, with an average attendance of 45.

The youngest is five and the oldest sixteen years of age.

The parents are stock farmers, crofters of a good class, and estate servants, *e.g.*, gamekeepers, gardeners, foresters, carters, joiners, and blacksmith. Parents. Families Food.

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are, as a rule, large, and the children are well and substantially fed. They get porridge and milk twice daily. I have not a single ill-fed child in school.

No meals are provided by the School Board or other authority. Fully three-fourths of the children bring their midday lunch to school. Every one has milk (heated at the school fire in winter), which, along with bread and cheese or a sandwich, forms this meal. Stronger and healthier-looking children it would be difficult to find. Only one child in school could be considered of delicate constitution.

Clothing. The clothing is quite satisfactory, and neatly repaired when necessary. In summer most of the children go barefooted. The parents say this saves the boots for winter.

Most of the children reside, on an average, about 1¾ miles from school. A few are distant 3 and 4, whilst two live 4½ miles away.

Five ride bicycles daily to school, and I am encouraging this means of locomotion.

Whilst walking a good distance to and from school materially benefits the health of the scholars, it does nothing, as far as I can see, to improve awkward and clumsy gait, which is too often the result of long fatiguing walks.

Training: advantages. Here physical training comes in, and is a valuable corrective. Soon beneficial results begin to show themselves in improved carriage and greater activity of body and mind. To my mind physical exercises with a sprightly and tasteful musical accompaniment form a most delightful interlude in a hard day's work.

Music.

Cruden's system. The system of physical training in use in this school is based upon that of Colonel Cruden, Aberdeen. As an ex-Volunteer I am able to give in addition a good deal of company drill of an easy nature, *e.g.*, company formations, turnings, and marching. During stormy

Musical drill. weather musical drill is given inside, but the floor space is limited for this delightful exercise. Hoops, bar-bells, and dumb-bells are in use. This system was

Time. begun after my arrival. The boys have drill for three-quarters and the girls for half an hour per week. Hitherto I have only been able to give this amount of drill, but hope ere long to have three half-hour lessons per week for both boys and girls. However, I try to make up for this deficiency by looking well after the

Games. games of the children. Football, cricket, etc., are regularly played in season, and a good football is always kept in school. The girls play at various games, and in their case also balls and ropes are kept for use. My own love for games and sports was largely acquired at St John's Schools, Jedburgh, where I was a scholar and pupil teacher. There our teacher took a great interest in the various sports, and matches were regularly played against other schools and clubs.

Manners. Though the games here are not organised, yet the boys choose a football and cricket captain. I am particularly delighted with the total absence of swearing or vulgarity amongst the children. They play with a brightness and zest truly gratifying.

Accommodation (inside) inadequate. I regret that our inside accommodation for physical training is inadequate. The space outside is fairly good, but we could do with more room for cricket and football.

The men and youth of this district are very capable shots. I have seen some of my scholars competing in glass-ball competitions with surprising success. There is a glass-ball shooting club here, which holds two meetings annually. The lads have a good many opportunities for shooting.

Drill. H.M. Inspector of Schools has commented very favourably on our drill. The parents are quite pleased, they tell me, with 'the drill'; the physical exercises done during the day are often repeated in the kitchen at night.

Continuation classes: no physical work. Continuation classes were last held here three years ago, but no physical training was given.

On leaving the day school most of the lads assist their parents on the farms. A few find employment in banks and law offices, whilst others become estate servants. The girls assist at home, as a rule, for a time, and many afterwards go to domestic service or become dressmakers.

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There is little illness—mostly colds—at school. As registrar of births, etc., for the parish, I may mention that in this district people generally live to a good old age. The climate is healthy, despite the heavy rainfall of 75·5 inches per annum.

Medical examination unnecessary. No regular medical examination of the scholars takes place, and in this district is unnecessary.

Compulsion day school. I certainly do think that physical training should be made compulsory in all day schools. Great care, however, should be taken with delicate children; for physical exercises, whilst they improve the physique and are highly beneficial to almost all, are found to be very fatiguing to a few. The teacher will require to be observant of the constitutions and state of health of his scholars.

Compulsion for those fourteen to eighteen undesirable as yet. Though regular physical training would undoubtedly be beneficial for youths from fourteen to eighteen years of age, I do not think the country is yet in favour of its being made compulsory. It ought not to be forgotten that the love of sport, inherited from the Normans, is as strong, if not stronger, than ever. Though in the city there is a certain rowdy element connected with football and racing, yet in the smaller towns and throughout the country generally a strong, manly spirit prevails in all branches of sport. In my opinion there never were finer athletes than now amongst lads from fourteen to eighteen years of age. The lads to be benefited most of all by compulsory physical training are those who loaf about street corners and usually drift into public-houses at seventeen or eighteen. There is doubt, too, as to whether it would be possible to bring often together for training youths from outlying districts.

Teachers' training. Male teachers can receive military and physical training by joining the local Volunteer corps. Both sexes, if living remote from the town or not, may obtain adequate instruction in physical exercises by attending classes such as those conducted by Colonel Cruden, Aberdeen. Surely, too, competent drill instructors could be found in the provinces willing to carry on physical training classes for teachers.

In one landward Board I know of, a peripatetic drill instructor (ex-army man) goes round the various schools in turn. He is compulsory officer as well. Could he not instruct the teachers if necessary?

The time of tuition per day or week would largely depend upon the aptitude of the teacher. Again, some splendid text-books (*e.g.*, Cruden's, Oxley's) may be studied, and twenty minutes' interested and vigorous exercise in the morning should make a smart teacher proficient in drill in a comparatively short time.

No loafing. There is no loafing whatever in our district. A competent instructor of continuation classes would, I have no doubt, make physical training popular.

Gymnasium for those fourteen to eighteen. There can be no doubt that a well-equipped gymnasium and competent instructor would attract boys from fourteen to eighteen years of age. In the second place, technical classes suitable to the industries of the locality ought to, and generally do, draw well. In rural districts, where agricultural pursuits are engaged in, it is not always the case that the teaching of the science of agriculture attracts the youths. A general but attractive scheme of work and personally popular teacher succeed often best of all.

Music and dancing are attractive subjects. (Here delightful dancing is to be seen.) The former is, like physical exercises and military drill, only paid for at the lowest rate of 2s. 6d. per pupil per hour per week.

The latter subject is not recognised at all under the Code.

Medical examination desirable. 11,363. Is there anything you would like to add to the statement that you have just made?—I have noted one or two things that I thought of later on in regard to the medical examination of scholars. I have stated that no regular examination takes place. I may say, on second thoughts, that it might be better to have them examined. Although I am personally known to all the parents, who are not slow to tell me of any

defects of hearing or sight, at the same time the doctor may be able better to find out those defects by a regular examination.

11,364. Especially in eyesight?—Yes, and perhaps with regard to nervous diseases such as St Vitus' Dance, which is a form of disease that we sometimes meet.

11,365. Teeth are very much neglected?—Yes; I have a case of a boy who has suffered the whole of this week from toothache. I encourage the care of the teeth by example and precept. I never have toothache myself.

11,366. You think that all the lads in your district take a great interest in sports after leaving school?—Yes.

11,367. They would hardly require any compulsion to attend classes if they were made interesting?—In our district the great majority of the pupils would have a good long distance to go, and, being on the hills all day, they would perhaps find it too fatiguing to come down to the school at night; they could hardly be expected to come. They have an intense fondness for shooting. I have already mentioned the surprising success of school boys who remain with me till sixteen, and who shoot very often at glass balls.

11,368. Do they shoot at a rifle range also?—No, we have no range. They shoot rabbits and other game, and they have lots of opportunities for handling the rifle. Their sight also is wonderfully good. I often go out with them with gamekeepers and young farmers, and they detect objects on the hills long before I can detect them.

11,369. They have good training in eyesight?—Yes.

11,370. *By Sir Henry Craik.*—You have known other parts of the country?—Yes.

11,371. You have told us that you do not have a single ill-fed child, that only one child could be considered delicate, that clothing is satisfactory, that there is little illness, and that otherwise the school is in a very excellent condition. Is that typical of the country schools in Scotland?—I think myself that my school is rather better in the way of health than a great many ordinary schools that I have seen in the South of Scotland.

11,372. There is no loafing whatever in your district?—No.

11,373. Your attention was attracted to this subject of physical instruction because you were under a teacher who was specially interested in the subject?—Yes.

11,374. You have yourself repeated this in your own school, and you think with good results?—Yes.

11,375. You have been in England also?—Yes. I was trained in York.

11,376. How does the physical condition of the boys you have to deal with in Scotland compare with the condition of the boys in England?—I think the boys in Scotland are, on the whole, more heavily built than in England. I don't say that the English boys are not so smart physically, but the Scotch boy is bigger and burlier.

11,377. Do you think that in England they receive as much physical training as they receive at Balquhidder?—I could not speak with authority on that point, because I did not remain in England after leaving College. I can speak about the physical training that the students receive in the College at York.

Training College at York: good course of instruction.

11,378. Was that thorough?—It was very thorough in the way of sport.

12,379. But in drill?—We were all compelled to be Volunteers, and not only that, but we were compelled to take, if possible, certificates of proficiency in the teaching of military drill.

11,380. Do you know the training colleges in Scotland?—Yes.

21,381. Are they as good as the English ones?—No; in England we all lived together.

11,382. The teachers turned out by the York College had more opportunities for physical training than those in the colleges in Scotland?—Yes, we had a rowing club, fives club, football and cricket clubs, and our sports were carried on under the most advantageous conditions.

Shooting.

11,383. *By Sir Thomas Glen Coats.*—You spoke about the boys shooting glass balls. What is your opinion about training the hand and eye as regards shooting with a shot gun or shooting at a range?—I have had experience of both, and I must say that it is easier to shoot at the range than it is to shoot with the sporting rifle; that is to say, at living objects.

11,384. Which would you prefer for training the hand and eye?—Certainly shooting with the rifle.

11,385. At a range?—No.

11,386. Shooting at moving objects?—Yes, with a sporting gun.

11,387. When you speak of shooting at glass balls, what do you mean they are shooting with?—A sporting gun with small shot.

11,388. *By Mr Fergusson.*—You do not consider walking as being a sufficient substitute for physical exercises?—No.

Dancing.

11,389. Do you teach dancing?—No.

11,390. You refer to dancing as being an attractive subject?—The people of Balquhidder are naturally dancers. I may say that before I went to Balquhidder I heard of teachers going round the district and holding very large classes there. The people all danced beautifully.

11,391. There would be no objection on the part of parents to teaching dancing?—No.

11,392. It is very good exercise?—It is the very best. The dancing is surprisingly fine in Balquhidder.

The witness withdrew.

Mr M. Paterson, B.A., LL.D., examined.

11,393. *By the Chairman.*—You are Rector of the United Free Church Training College, Edinburgh?—Yes.

11,394. You have prepared a statement which we shall be glad to hear you read.

1. (*a*) *School and University training*, (*b*) *former experience*, and (*c*) *time in present position.*

(*a*) Educated in the Royal High School of Edinburgh—period of attendance six years; and in the University of Edinburgh—period of attendance four years.

(*b*) Was for seven years in Blair Lodge School, Polmont, first as classical master, later, colleague in the principalship.

(*c*) In my present position since the beginning of 1864.

2. *Average number of Students.*

The college is sanctioned for 220 students, and that number is in attendance. Of these, about 90 are men, 130 are women. The proportion varies.

3. (*a*) *The ages of students*, (*b*) *parentage*, (*c*) *future careers*:—

Ages, parentage, careers.

(*a*) No student is admissible who is under eighteen years of age. The women are usually older than the men. Their average age is twenty years.

(*b*) The women are of a social grade slightly higher than the men. A good many of the latter are sons of working men and small shopkeepers. Some belong to the lower middle class. A considerable number are sons or daughters of ministers, teachers and others of similar social standing.

(*c*) All undertake to teach in schools under Government inspection. Some rise to important positions in schools like the Edinburgh High School, the Edinburgh Academy and the Merchant Schools.

4. *Opportunities of physical training*:—

Games.

(*a*) *Regular games.*—The college has clubs for football and cricket respectively.

(1) The clubs and their operations are under the cognisance of the rector, and to a small extent are

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pecuniarily aided from the college funds. The clubs are managed by committees and office-bearers chosen by the students. There is no further supervision.

(2) In the college grounds there is a 'drill square' or playground laid with fine ashes, in which, at the 'ten minutes' hourly intervals, and at other opportunities, a considerable amount of restricted practice of both games is possible.

Matches are played on Saturdays throughout the session.

The managing committee of the college, in answer to a petition from the students, recently authorised the rector to make enquiry for the use of a field in the neighbourhood of the college. He has now been successful. The West Meadows are available for cricket.

The women of the boarding house attached to the college play tennis in the large court in the centre of the college buildings.

Drill.

(*b*) *Drill.*—Drill is taught to all the students, except those of the third year, by two drill sergeants of high standing, during the whole session in a large court, open on one side. They are taught in four sections, first year men and first year women, second-year men and second-year women. Each section is subdivided and drilled by a separate instructor. Toward the end of the course the divisions are joined and drilled under one instructor, the other instructor, however, being present.

Second-year students drill one another, and this last session, they also drilled small classes of boys and girls under the supervision of the instructor.

The drill sergeants hold the position of sergeant-major of the Queen's Rifle Volunteers and are in touch with the regular forces.

Athletics.

(*c*) *Athletics.*—Running drill is practised in the ground attached to the college.

Handicrafts.

(*d*) *Handicrafts.*—Cardboard modelling taught to the men and similar work taught to the women as extension of kindergarten is all that is done.

Voice training.

(*e*) *Voice training.*—This is prescribed and given in connection both with music and phonetics. At drill the voice is exercised in singing, during certain 'practices.' Breathing exercises are also practised.

(*f*) *Cadet Corps, Rifle Shooting.*—On this subject I beg to submit a report that has been drawn up by one of our students at my request. 'The

Volunteering

'Volunteer Movement in Moray House began in 'June 1900. The students are attached to No. '11 Company of the Queen's Edinburgh, and 'although there are a number of professional com-'panies, such as University, S.S.C., Bankers, etc., 'in the Brigade, the Moray House men are already 'taking their own place. All the recruit drills are 'put in at the College, where there are excellent 'facilities for all weathers, in the students' own time, 'after College hours, under the Sergeant-Major of the 'Queen's. Over 40 students have become efficient 'volunteers, and, while a few have resigned on leaving 'the district, this year's camp at Barry in the 32nd 'Brigade Field Army was attended by 32 men. Of 'these, 30 formed the advance party of the Queen's 'Edinburgh, and were considered a most energetic 'and capable party for work demanding some intelli-'gence, while their Guard which was mounted for the 'arrival of the Battalion was complimented by General 'Sir Archibald Hunter, commanding the Scottish 'District, as the best guard in the district. While 'some resign on leaving the district, others leaving 'this year have signified their intention of attaching 'themselves for drill to the local corps of the district 'to which they may be appointed, but retaining their 'membership of the College corps that they may 'annually reunite at camp. Indeed a prominent 'feature of the movement has been the enthusiasm 'with which camp has been attended for the maximum 'time. . . . Several intend taking out their commission 'as soon as their position warrants their doing so.'

Difficulties.

Replying to the question why more of the students are not joining the volunteers, and what are the drawbacks to the formation of a separate company in Moray House, the report says: '1st, the transition stage 'through which the College, as an educational institu-'tion is passing, has rendered many of the students 'chary of giving up their own time. Until a propor-'tion of the time, at least, can be recognised by the 'Education Department as forming part of the work 'of the Training College, and thus let it be seen that 'something will be done for those who care to sacrifice 'the remainder of the requisite time . . . there seems 'no prospect of the movement being set up on the basis 'suggested, a position it should undoubtedly and would 'almost certainly occupy. 2nd, The want is felt of 'an officer specially charged with the Moray House 'men to work up recruiting. No member of the staff 'of the College or of the Normal (Practising) School 'has been found willing to undertake this position, but 'it is expected that some one of the students them-'selves will soon be in a situation to warrant his doing 'so.' In answer to the question what kind of volun-teers Moray House students make, it is said, Sir Archibald Hunter considers the three requisites of the good soldier to be (1) ability to march long distances; (2) ability in making and intelligence in taking cover; (3) good shooting. From the athletic disposition of the most of our men and the standard of intelligence which one expects to find in teachers in training, it will be seen that they may be regarded as likely to be well fitted for requisites (1) and (2). With regard to Shootin marksmanship, nearly all are good shots, and it may be mentioned that at the annual prize competition of the Queen's Brigade in D Class, open to men of not more than two years' membership, the *first* place was taken by a Moray House man, and other three prizes, out of a total of twelve.

(*g*) *Swimming.*—The public baths are at no great Swimm distance from the college.

(*h*) *Gymnastics.*—Free gymnastics as applied to the Gymna army are carried out by the students.

There is no gymnasium attached to the college. The covered room, open on one side, already referred to, serves, to a certain extent, the purposes of a gymnasium.

5. All students have ten minutes of interval at the beginning of each hour, and there is a vacant half hour for the men, who dine in college. These times are diligently used for the games already mentioned. Occasional spare hours also are available for the University men.

Drill is given twice each week, in both the summer Time a and winter session, for half-an-hour at a time. The lessons are all given in ordinary college time.

6. *Advantage taken.* — Practically *all* the men Opport become members of the College Football Club and tage o engage in play. The membership of the cricket club is not so large, but the game is extremely popular with those who engage in it.

As to drill, *all* students are drilled, unless exempted by reason of medical certificate. Naturally, perhaps, the exercises are more heartily entered into by the men.

7. *Results and Effects of Physical Training. Physical Results.*—The aim of physical education may be said to be complete development of the body (as the aim of education generally is complete human development), its several parts being brought to their proper size, perfect conformation and highest capacity. Systematic physical exercise, given with sufficient regularity and frequency, during the period of the body's growth, that is in youth, undoubtedly, as MacLaren of Oxford shows, increases the size and power of the involuntary muscles employed, increases the functional capacity of the involuntary muscles, and thereby promotes the health and strength of the whole body by increasing respiration and quickening circulation. Tables like those of MacLaren showing 'the 'influence of systematised exercise on boys of different 'conditions of growth and development extending over 'periods of several years' sufficiently prove this, the measurements having reference to weight, chest, fore-arm and upper arm, though the demand on the boy's time is no more than one hour per week.

As regards training college students the most obvious result is that the carriage is improved, slouching habits are corrected, erectness of bearing is promoted, and a general alertness is produced, all of which count for much in the qualifications of a teacher.

Intellectual.—Physical fitness for exacting intellectual work is maintained in our men partly by the meal supplied daily in the college at a moderate cost, partly by their games, and by the drill exercises they receive.

The interconnection of mind and body is now known to be so close that whatever contributes to increased health and vigour of body reacts powerfully in securing intellectual health and vigour. The mind, it has been said, is at the mercy of the body. The organ through which the mind works and on which it is entirely dependent is subject to the same laws as other bodily organs, so that the wear of brain entailed by mental work must be made good day by day, while at the same time, in the case of the young, provision must be made for additional growth of brain, as of the body as a whole. In order to this, children's games and physical training are important factors.

Moral Results.—In the Paris International Congress on Physical Education, several deputies, admirers of the Ancient Greek gymnastic, attributed to physical education a sovereign, or even an exclusive efficacy, in beautifying and moralising the soul. 'Physical 'beauty,' it was said, 'is mother of moral beauty.' Mme. Kauffmann, after an exhibition given by Mme. Bergman Österberg's pupils of Swedish gymnastics, thanked the latter for *thus* forming *perfect* women, *morally* as well as physically. In America, too, more than with us, the gait and bearing and habit of body generally of a pupil have come to be regarded as a not unreliable index of moral character. It is an old and interesting idea that a beautiful body and a beautiful soul are usually associated, but as M. Chabot, who reported on the Congress to the French Government, remarks, the merit that belongs to the young ladies trained by Mme. Bergman Österberg cannot all be reasonably attributed to Swedish gymnastics and physical education. Something must be claimed for hereditary qualities, for the moral influences of their homes, and for Mme. Österberg herself. Moral education is a thing of the intelligence and the will.

Now, for the training of the will, it is certain that physical exercises in the case of the young prove quite invaluable. In these exercises submission is demanded to authority, to command, in what is easy and pleasing, and in circumstances where there is no temptation to resist. Such submission continued throughout a school career can scarcely fail to leave as its result a habit of subordination to law and order, and it may be hoped that along with other influences, submission to the highest demands that can be made of a human being may also be rendered. Self-respect and self-reliance too are almost necessarily fostered by physical training. The young man becomes conscious, not only of increase of muscle in arms and limbs, of expansion of chest and all that follows from chest expansion, but also of a dexterity, a serviceableness, a power of endurance which he did not formerly possess. He feels himself to be more of a man than he was, so that like one trained by MacLaren, when asked whether he felt stronger for his practice, he may reply, 'I feel twice the man I did, 'sir'; and when further asked what he meant by that, said, 'I feel twice the man I did for *anything a man* '*can be set to do.*'

I agree with Mr Bott of Birmingham that such *moral* effects as the following may be looked for from physical training, viz.:—That children are taught from their earliest years that there is a right way and a wrong way of doing even the simplest things, *e.g.* walking, marching, and the like. They learn to know the value of form and style. Habit is formed in easy things of doing what they are told and doing it promptly. Also that each child in a squad being on an equal footing with all the others, learns that no one can gain distinction at the expense of his neighbours, that one child can spoil the efforts of the other children, that success depends on the complete subordination of every child to the instruction and commands of the instructor.

I might also refer to the development of habits of comradeship, sense of duty, feeling of responsibility and of individual resource, as suggested in Lord Balfour's Circular, dated 3rd February 1900.

8. *A Uniform System.*—In the Paris Congress, already referred to, a resolution was unanimously agreed to that 'the principles of physical education 'ought to have a universal character, and ought to 'conform to the laws of physiology, mechanics (animal?) 'and psychology.' All the teachers of gymnastics present, representing almost every country in Europe, as well as America and Japan, seem to have expressed themselves as prepared to accept the teachings of physiology, anatomy and biological mechanics. If the principles suggested by these sciences were given effect to in a system of physical training, very considerable diversity in the mode of teaching might be recognised, and would not be objectionable. Uniform system: general principles, but freedom.

9. *Amendment and Development.*—What seems most to be required is a clear understanding on the part of school managers and teachers of what is aimed at in physical training, and of its importance, of the means by which the ends it aims at may best be reached, and increased time for accomplishing what is in view. Improvements suggested.

10. *Just Proportion of Time.*—MacLaren, as the result of long and varied experience, thought that one hour per week was sufficient for the complete system of bodily culture which he recommends. The college drill sergeant, who also drills our practising school children, suggests that two or three half-hours per week are sufficient. Were this time given by competent teachers, during the whole of a child's career at school, probably most of the ends in view would be attained. Time: proportion.

11. *Other Physical Education given in the College.*—The drill sergeants explain, with some fulness, the exact bearing of each part of the drill that is given to the students. Physical education.

The students also have the subject discussed at some length in their class-rooms. Thus, a tolerably full account of the Paris Congress has been given, dealing as it did with the *Philosophy* of the subject, the *Biology*, the *Technique*, the *Pedagogy* and the *Propaganda*. The *rationale* of physical exercise and training is taken up, with a brief account of Ling's system, and the plans adopted by the great School Boards of London, Birmingham, etc., as described in the *Additional Reports of the Education Department*. The diagrams illustrative of these systems are preserved in a scrap book and shown.

12. *Keeping up to Date.*—Some do, chiefly in connection with the Volunteers, but of the majority I am not able to speak.

13. *Medical Examination.*—Besides producing a medical certificate from the family physician, the students until recently were examined by the medical officer of the college at the beginning and end of their course. Since the passing of the Superannuation Act, much more stringent and searching examinations are held at the instance of the Education Department. Medical examination

14. The value of a register as to height, weight, etc., as used in other countries, has been explained to the students, but no register has yet been instituted.

15. I venture to submit to the Commissioners a short statement sent to me by our drill sergeant, a man of much intelligence and of great experience:—

'During the number of years I have been drilling 'schools, I find that there are no objections on the 'part of the parents to physical training, but there are 'many cases in which parents object to the intro- 'duction of military drill along with physical training. 'For my part, I do not think that squad drill is 'required. The Blue Book on Physical Training, 'issued by the Education Department for 1900, gives 'it rather too much of a military tone. The only drill 'required is that which is sufficient to bring the 'children into their positions for the various exercises. Training and military drill; objections to latter.

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'In fact, I would suggest that the word *drill* be 'deleted and the word *exercise* be substituted. Then I 'feel sure the parents would have no objection.' . . . Under the head *Method of Training*, the sergeant says: 'This is what I would call the most serious side of 'the question of physical training, for if the greatest 'care is not used, then the after effects may do serious 'injury to the pupil. The system as carried out in 'the service now is what I would call a forced training, 'and is done to convert or develop a growing lad of 'seventeen years into a young man of twenty-one, 'and there is not the slightest doubt that it does 'so after a few months' training. But what effect 'will this have on the man in after years? To 'further illustrate this, I may mention that during 'the late war, I saw about 650 men parade in 'Edinburgh. They were reservists. Their ages would 'average from twenty-five to thirty-five. They were 'a square-shouldered set of men, scarcely a round-'shouldered man was to be seen among them. All 'these men had received physical training in the army. 'In general appearance they looked youthful enough, 'but their stature (*sic*) appeared to the eye as though 'they were men of about forty-five or fifty. From this, 'one comes to the conclusion that all who receive 'physical training will become square-shouldered men, 'also that they will be set men before their time. 'Whether this is an advantage to the men remains for 'the medical authorities to decide. . . . Another point I 'would state is that all gymnastic instructors, as a 'rule, do not live to a good old age. They generally 'break down in the prime of life, and I attribute this 'to the overtaxing of the muscles and tissues of the 'body in their earlier days, say from their twentieth to 'thirtieth year. In physical training it is not the 'intention to make a boy or girl a gymnast, but simply 'to exercise those parts of the body which would 'remain dormant by certain occupations and callings.' The sergeant then urges that the morning is the best time for physical exercise.

System of training: probable effects.

Uniform system: Paris Congress.

11,395. Perhaps you might elaborate a little more your statement as to a uniform system. Has anything happened since the resolution passed at the Paris Congress?—As a result of that conference there was a complaint that there was not so much agreement as would have been desired among the specialists who should have guided those who were to determine what system of gymnastics was best. It seems as if that ought to be ascertained—what anatomy, physiology, and perhaps psychology teach us is best in order to have the ends of physical training accomplished. We should look to science to teach us that, and then there would be an opportunity of considering how the means available in schools could be applied for that end.

11,396. They contented themselves with a few words and did nothing further?—They had a good deal of discussion on the subject.

11,397. Are you interested yourself in physical training, or do you look at it from an exalted point of view?—It is rather from my position that I take an interest in it.

11,398. But you have considered it?—Yes, always in its bearing on what I have to do with the students.

11,399. Recently have you considered the general question, have you been interested in it?—Yes, I have read and thought a good deal about it.

Training: valuable after school age.

11,400. Have you come to any conclusion as to the benefits it would have on the population at and after school age?—Yes, I quite agree that it would be very valuable indeed after school age if it could be continued. I have a little doubt as to whether at first it could be made compulsory. Perhaps like many other things it might first be voluntary and gradually encouraged, so that all might share in it.

11,401. You recognise that the part of society requiring it more than any other is the one most difficult to get at?—Yes.

Students, female: drill.

11,402. *By Mr M'Crae.*—I think you say that the women are drilled along with the men?—No, they are drilled separately

11,403. Do taey get squad drill?—They don't get all that the men get. They all take squad drill, physical exercises, free gymnastics, dumb-bell and Indian clubs, but the women don't take the parallel bars.

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11,404. The women are drilled by the drill instructor, the same as the men?—Yes.

11,405. You think that your way would be very much clearer if the Education Department recognised physical training as part of your work?—The physical training is recognised as part of our work—in fact, we require to give it.

11,406. You say that the Education Department should recognise the cadet corps?—The idea, I suppose, would be that if men took drill as volunteers they might be exempted so far from the ordinary drill at the Training College.

11,407. *By Sir Henry Craik.*—There is no cadet corps, of course?—No.

More systema training

11,408. *By Mr M'Crae.*—Will those women who are trained by your drill instructor train the children in the various schools to which they are afterwards appointed?—Yes.

11,409. You therefore think that a more systematic course of training might be of advantage?—Yes, or perhaps a little more time is all that is required.

Examin — result

11,410. You give one hour a week divided into two?—Yes, in both summer and winter now. Our drill sergeant subjects them all to examination in drill, and the result that he got in July last was, that out of thirty-eight men, fifteen got eighty per cent. for word of command, method of drill and knowledge of drill, ten got seventy per cent., five got from sixty to seventy per cent., and there were eight below sixty per cent. I do not suppose that these eight would be of very much use in teaching drill. Out of the women thirty got eighty per cent. and upwards, seventeen got between seventy and eighty per cent., six got between sixty and seventy per cent., and there were thirteen who got below sixty per cent.

11,411. Do you know what he means when he says that he does not think that squad drill is required?—I cannot say that I do. I got this statement sent to me when I was in the country.

11,412. *By Mr Alston.*—These pupils of yours get this physical training for their own benefit?—Yes, and also to enable them to give instruction in schools.

Trainin insuffici

11,413. Do you think that the training they get in your establishment is sufficient to make them competent teachers in the schools to which they afterwards go?—I am afraid that I could scarcely say that they would meet the demands that seem to be made now. They meet the demand of the Code as it stands, which says 'Adequate physical training.'

11,414. Is it not the case that a very large number of these men and women go to such a training college as there is at Aberdeen, for instance Cruden's, which has passed through some three thousand in recent years, and gives certificates when they are proved to be competent to instruct a class. Do you think that your pupils would be competent to take up the same position as those who have gone to a physical training college?—I suspect we don't give enough time, but we have the very best instruction. General Chapman said recently that the instructors we had were the very best that could be got. I do not think that twenty drills a year [since doubled] would be quite sufficient.

11,415. It is not so much the time as the quality of instruction that they get which enables them to teach when going to schools. Do you think that your students after the training they get at your establishment would still require to go to a training college to gain proficiency?—I think we are the college for them, and if we had a little more time they would be quite expert.

Inspect

11,416. Supposing an expert inspected a class which was being instructed by these students sent out by you, would he be sufficiently satisfied with what he saw?—Some of them would do better than others, but I am scarcely able to say anything more about them.

11,417.—I am looking to a time that might come when a Government expert might be appointed to

examine with great care the work of the male and female teachers in schools?—I understand. Our practising school has always been favourably reported on. In that school there are between eight and nine hundred children, and they require physical drill to satisfy the Code. In 1900 the report stated that the military drill taught by the instructors was of conspicuous excellence and would do credit to a crack corps. I should hope that those students who take an interest in the work might satisfy any inspector.

11,418. We have had evidence that an expert, when he came to examine teachers at their work, even when turned out by a physical training college, found that they were not up to the mark. In speaking of the uniformity of the teaching, you say that it would be desirable to have a complete manual embodying all that was thought necessary and desirable, conforming to the laws of physiology, etc., such a full manual to be used by all schools, and the teachers to be allowed to use portions of it. You think that that would be desirable?—Yes.

11,419. Have you met with many methods of physical training? — I am best acquainted with MacLaren's.

11,420. You are aware that there are several systems published?—Yes.

11,421. Is there a desire that there should be a free hand in connection with these manuals, that the teachers should be able to extract from them the parts that they think applicable to their class?—Yes.

11,422. Your drill sergeant makes statements that seem to come awkwardly from a drill instructor. The attitude he takes in reference to military drill is rather striking. The statement with regard to overtaxing the muscles and tissues does not apply to your school?—No.

11,423. He lays some stress on the omission of the word 'military.' That is a sop thrown for the public who don't approve of military drill?—Yes, I suppose so.

11,424. He would like to have the drill, but he does not want to have the phrase?—I suppose that is so.

11,425. *By Sir Henry Craik.*—I would like to ask you about one subject not touched in your evidence. You have been for thirty-six years in your present position?—Yes, rather more.

11,426. Your experience is almost unequalled in the class of persons who are preparing to be elementary school teachers?—Yes.

11,427. You began before the passing of the Education Act?—Yes.

11,428. Could you tell us what were the numbers in your training college in 1864 and what they are now?—The number was slightly lower in those days. It was just after the introduction of the Revised Code, and while 200 had been the number for several years before, it was reduced to about 160, and it sank even below that.

11,429. What have you now?—We have sanction for 220. I suppose they would have sanctioned more if we could have accommodated them.

11,430. Was the competition for entering the training college in 1864 less or more than it is now?—We find on this side of the country very considerable difficulty in getting men at all.

11,431. Then you think there is more difficulty now in securing suitable teachers than there was in 1864?—It was in 1864 when things were at their worst. Things were looking very black for education at that time, and the number fell very rapidly, but it improved afterwards. I am afraid that the number of men looking forward to the teaching profession is no greater than it was at that time.

11,432. You always draw a much better class of women than of men?—Yes.

11,433. That is the experience of all the training colleges?—Yes.

11,434. Comparing the class and calibre of the men under training thirty or forty years ago with them now, what observations would you make?—Since university privileges have been put within the reach of students, I think there has been an improvement in the attainments of the men. I am not quite sure whether they come from the same grade of society as they used to come from; I don't think it is quite so high.

11,435. Your experience there agrees with that of most of the other training colleges?—I think so.

11,436. Accompanied by that probable falling off in the social status of the teachers there has been some falling off in their physique?—Perhaps a very little.

11,437. The old parochial teacher was physically a better man than the average school teacher of the present day?—I am afraid that that is quite true. I am sorry sometimes to look over our men, as their appearance is, in some cases, rather disappointing.

11,438. You referred to the Superannuation Act and the more careful examination of candidates which we have been obliged to institute under that Act, and you said that the more careful examination has led to a good many rejections?—It has led to several in our case.

11,439. And a good many besides?—Yes.

11,440. You think, on the whole, that so far as teachers who have charge of the children of Scotland are concerned there is a depreciation from the physical point of view?—Yes, if there is any change it is rather in that direction, but I would not like to put it very strongly.

11,441. That does not refer so much to the women, because, as you said, you always draw a better class of women than of men?—That is so.

11,442. Turning to the elementary schools between 1864 and 1902, we have to deal with a very much larger class of children who are at the lowest end of the social scale than we had in 1864?—Yes.

Systematic training: more necessity now than in 1864.

11,443. There is, therefore, greater need of attention to physical training for those children than there was in 1864?—Yes.

11,444. There is more need that it be not left entirely to the children themselves to join in games, but that there should be systematic physical training?—Yes.

11,445. Your experience agrees with my own, that on the one hand the children are more in need of it than they were in 1864, and on the other hand the teachers to give it to them are perhaps on the whole less fitted to give it than they were in 1864?—I would not put it that way in regard to the teachers.

11,446. They are not quite so good physically?—Perhaps not quite.

11,447. They have made it up by being better instructed in a physical system?—Yes. For a number of years there was no physical training given to our students at all.

11,448. But from the point of view both of the children and of the teachers, comparing these two dates, there is an increased necessity for systematic physical training?—Yes.

Training: good effects.

11,449. *By the Hon. Thomas Cochrane.*—Do you find that physical training, in addition to its moral and physical effect, must also have an influence on manners?—Undoubtedly. I think I have mentioned in regard to our own students, that their slouching habits are corrected and so on. The effect is mentioned in Lord Balfour's circular.

11,450. It leads them to have a respect for themselves?—Yes.

11,451. It modifies any false ideas of independence in which a rough manner is supposed to be a sign of independence?—Yes.

Training in army: effects.

11,452. I don't want to cavil with any point, but I think your drill sergeant draws certain comparisons in his statement that to my mind are not quite borne out. He tells us that he inspected some 650 men on parade who were reservists and that they looked useful enough, but their stature appeared to the eye as though they were men of forty or fifty?—I think the word 'stature' is misplaced; I don't know exactly what he means. Perhaps he means that they were twenty-five to thirty-five years old but looked older.

11,453. He comes to the conclusion that physical training, as received in the army, will make them

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square-shouldered men before their time, but he is inclined to think that it ages them?—Yes.

11,454. Anyone considering that, should take into consideration the life of the soldier as well?—Yes.

11,455. The kind of life that they lead, the guard mounting and things of that kind, and a good many nights in which they do not get their rest, such things all help to age the men?—They must do so.

11,456. No doubt your drill instructor would tell you that in his experience of seeing recruits trained there was an immense amount of improvement?—Yes.

11,457. You don't think that there is any harm in physical training?—No. Our pupil teachers who have gone through the Training College, and who began as pupils and got the drill year after year, stand highest in physical training at the end of the period, showing that if a system which has been well arranged has been pursued from the beginning of the school career to the end, there is no overstraining, and good results are attained.

11,458. General and gradual training is in every way beneficial?—Yes.

Mind and body.

11,459. In addition to that improved physique, do you find that they are as successful in these schools?—Yes. I was rather struck this morning to find that the woman who was by far best intellectually in our Training College stands first in physical drill, and a considerable number are in similar positions.

11,460. That is not an isolated case?—No.

11,461. You find that those who are good in physical training are also good in other subjects?—In most cases.

11,462. You have come to that general conclusion?—Yes.

11,463. You at any rate have no fear that physical training would produce too much of a military spirit?—I think not.

11,464. You are not alarmed in that way?—No.

Manners: necessary to improve them.

11,465. *By Sir Thomas Glen Coats.*—I have often heard it stated that it has been a great disappointment that the manners of school children have not improved so much as might have been expected from the education they were receiving. Do you agree with that?—I am very sorry to have to say that I do agree.

11,466. Is that owing to the home training, or rather to the want of training in the schools on the part of the teachers?—Perhaps the teachers have not been sufficiently alive to what they could do in the way of improving manners. They have not laid sufficient stress, perhaps, on improving the manners of the children; it has not been sufficiently before them as an end well worth striving after.

11,467. If physical training were more attended to in the training colleges, do you think that that would improve teachers in that respect, and that that improvement would descend to the children in the schools?—I think it would contribute to it. I am afraid there would require to be more moral lessons than are given at present, good manners being made the subject of actual teaching, children being taught to understand the value of good manners. I think that that would go a great way. I am afraid that physical training in itself would not accomplish it.

11,468. It has been proposed that lectures on physiology should be given at the same time as physical training. I suppose you think that lessons in good manners might be added?—Yes.

11,469. *By Mr Fergusson.*—Do you impress that on your students who are going out as teachers, that they ought to pay particular attention to that point?—Yes.

Physical exercises and drill: examination: certificate granted.

11,470. Is there any particular examination in physical exercises and drill that your students go through before they finish their course?—We don't get any examiner from outside. The drill sergeants themselves submit them to an examination.

11,471. Do they get any certificates?—Yes, there is a certificate given in the following form,—'Mr . . . 'having received at this Training College, in successive 'years, two courses of instruction in Free Gymnastics, 'Physical Training and Military Drill, which have 'been attended with . . . regularity, is, after Examina- 'tion, found to be a . . . instructor in the above 'exercises. He has also a general knowledge of Indian 'Clubs, and is able to teach the various Dumb-bell 'Exercises.' That certificate is signed by the drill instructors and by me.

11,472. I suppose the amount of the training which you give and the examination which you exact really depend on the requirements of the Education Department. If they want a higher standard, then you give them more training?—Yes, and if Sir Henry Craik says that we have to give more time, then we will try and find it, but it is pretty difficult.

11,473. It is said that 'until a proportion of the 'time, at least, can be recognised by the Education 'Department as forming part of the work of the 'Training College, and thus let it be seen that some- 'thing will be done for those who care to sacrifice the 'remainder of the requisite time, there seems no 'prospect of the movement being set up on the basis 'suggested.' You agree with that?—Yes, that, of course, refers to volunteering.

11,474. But there is something there that you think the Department might help you in?—Yes. What you have been quoting from is a letter written by a student who has finished his course, and it works out in this way, that the men go to the volunteering after a long day's work, beginning at nine o'clock and ending about four, and then they have drill and go out to the shooting in the evening. The feeling is that they cannot be expected to do quite as much work as men who don't do that.

Food: meal: results. School should an inte question.

11,475. You spoke of the good effects the daily meal supplied to the students has had?—Yes, Dr Kerr, who was recently chief inspector, took a great interest in this question and raised a fund to supplement what the students were able to pay for their dinner, so that any student can now have a very good dinner for sixpence, the actual cost being eightpence, and the balance is made up from that fund.

11,476. You think that that has had very good results?—Yes, exceedingly good.

11,477. If that is so with your students, you think it might be taken to be the same with children in elementary schools?—Yes.

11,478. You think that the School Boards should look carefully into the question of underfed children?—Yes.

11,479. *By the Chairman.*—Should School Boards do that?—It should be looked after.

11,480. But you said School Boards. Did you mean that?—I am not sure. Some of our students have sent me an account of what is done with underfed children, in London for example, but I am not quite sure whether the School Boards did much or anything.

11,481. *By Mr Fergusson.*—I did not ask you if School Boards should feed the children, but whether they should not see to it and take some interest in the question of underfed children, and see what could be done to remedy it?—Yes, I feel that children are not fit for mental work if they are underfed, and I think that whatever requirement comes from the Department or under an Act of Parliament, that children should be intellectually instructed, should carry with it the necessity of making provision for those for whom no other provision is made.

11,482. *By Mr Alston.*—I notice that the certificate you have shown us is signed by the two drill instructors and yourself. I suppose this is granted on the opinion of the drill instructors?—Yes.

11,483. It follows that they must be efficient instructors themselves?—Yes.

The witness withdrew.

11,484. *By Sir Thomas Glen Coats.*—Just give us some information as to the position you at present hold?—At present I am headmaster of the Camphill Public School, Paisley, and I have been so for fourteen years.

11,486. You have prepared a series of answers to certain questions which have been put. Will you go over these?—Yes.

11,487. State your experience, qualifications, number of years in present position?—Headmaster of Central, West, Fergusiie and Camphill Schools, Paisley, embracing a period of service of thirty-one years. Headmaster of Camphill School since its opening in 1888—now fourteen years.

11,488. What is the class of your school, number of scholars, average attendance, and ages of pupils?—Camphill is a Public Elementary School. There are six departments for elementary work, and an advanced department of pupils who have obtained the 'Merit' Certificate, numbering 80 boys and 60 girls. Each department has a responsible head, all subject to the headmaster. Enrolled this week (re-opening on 1st September) 1840 pupils; expect the numbers to rise to 2000 by the end of September. The highest number present was 2171 on an inspection day—April 1893. Since then several new schools have been opened. Accommodation for an average of about 1900. The ages of pupils range from 4½ to 15 years.

11,489. What are the position and vocations of the parents generally?—The parents are shopkeepers, clerks, artisans, labourers, etc. It is a typical Board School. I should say that about 150 out of 2000 will include all who might be classed as somewhat poorer than the average.

11,490. Are the children, on the whole, well fed or the reverse?—The great majority of the children appear to be well fed and cared for.

11,491. Are any meals supplied by school or other authorities?—No meals have at any time been supplied by the school authorities.

11,492. How are the children clothed?—The children are well clothed; in winter I have remarked it specially, most of the girls have warm jackets or ulsters, and the boys have overcoats. I would remark that during the fourteen years during which this school has been open there is a marked improvement in the cleanliness, clothing, and feeding of the children, and I might say the same of the other schools here. Generally the pupils are well shod. A Ladies' Guild makes provision in clothing, boots and stockings for the very poor; from 70 to 90 pupils have been attended to for several years about Christmas time. The parents are asked to contribute 1s. for a pair of boots (to girls), or clogs (for boys), and 6d. for a pair of stockings. For articles of clothing nothing is paid. This Guild has done excellent work; there is judicious selection and kindly dealing. The Captain of Police and the Superintendent of the Society for Improving the Poor give valuable help

11,493. What are the greatest distances children have to come to school?—The school is not quite central; 1½ miles will cover the greatest distance; from the Cross (the centre) a radius of one mile will enclose the boundary. A few come by train a greater distance.

11,494. State the existing opportunities of physical training, *e.g.*, drill, gymnastics (free or applied), games, etc.?—The teachers, male and female, alone teach drill—physical drill—bar-bells, dumb-bells, Indian clubs, etc.; musical accompaniment. There is no gymnasium; there ought to be, where so many of the bigger boys and girls are collected. At present the boys in and above the fourth standard number about 450, and the girls 300—in all, 750. I suggested to the School Board the desirability of erecting a gymnasium two years ago, when a new workshop (forty benches) was erected. The Board, having a heavy expenditure in building schools, could not see its way to do so then. Two of the Board Schools with much smaller attendance have this valuable adjunct. It looks a little anomalous that one of the largest schools in Scotland, and the largest in Paisley, with (say) 1100 boys and 900 girls, should be unprovided. Further, into this school are collected all those from the Board Schools in town who are beyond the 'Merit' Certificate classes. Hence the necessity is greater for building a gymnasium.

11,495. How long in existence? How taught, and by whom?—This school has two male janitors, but neither is qualified by certificate nor experience to teach drill. I may say that one of our janitors was called to the front, and was absent for two years. During that time we had a temporary janitor, and when our old janitor returned he was appointed as janitor to a new school, the 'Abercorn,' so that we are still without an instructor of physical training or military drill. Nearly all the other schools in the town have janitors who can teach drill. I have long advocated the necessity of a specially qualified instructor, either janitor or visiting master, but to this time I have not had my request granted. Nearly all the other schools in town have a janitor who teaches drill. The drill has been taught by the teachers, but I cannot say that I am satisfied. To do it properly and systematically, it requires higher qualifications and greater experience than they possess. Nor is it sufficient, in the case where the janitor is employed, to say that, being an army man, he has had drill. He ought to be able to teach it, and command authority in the doing of it. You would require to preserve discipline at the same time. I may add that where it is possible you should have a janitor who is also a drill instructor. That is better than having an outside man, as you can work your time-table more conveniently With an outside man, you have to suit your time-table to him.

Drill: no expert instructor; advisable to employ janitor if qualified.

11,496. How long *per diem* or *per week*?—One hour per week at the most.

Time allotted.

11,497. How much attempted? Reasons of success or failure?—Not much has been attempted. Want of proper accommodation for teaching it and the need of a properly qualified instructor, for the older pupils especially. The classrooms are unsuitable; there is only a limited space of free floor in front of the desks—width, about three yards. Drill cannot well be performed at the desks, as there is no freed m to move. It is dangerous to do so standing on the seats. There are large covered playsheds for boys and girls. As these are the means of entrance and exit, they are inconvenient. The worst objection is that they are too cold in winter; many a day the drill had to be omitted for this reason. I am not averse to drill in the playground, but the weather conditions and our situation often prevent our drilling in the playground.

Disadvantages: want of proper accommodation and qualified instructors.

11,498.—Are pupils interested and keen?—The pupils are interested and keen on drill. Boys like good stiff drill; they don't relish drill which is only a kind of play. When boys are disciplined strictly and kindly they yield to it with great pleasure, but it must be strict.

Drill, appreciated if strict.

11,499. What accommodation for physical training inside and out?—Answered in answer to the question before last.

11,500. Are any games played? When? Is there a park or field easily accessible? Are they organised?—There is a very large field between our school and the railway, but it does not belong to the school. It is on a slope. Last summer (1901) the pupils, boys and girls, in lieu of drill attended the Corporation Baths—the School Board paying for them. The visits to the baths of the pupils with their teachers were made between May 1st and October 30th. Those who attended belonged to Standards V., VI., and Advanced. The attendance was optional. The School Board

Swimming.

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exacted from each parent a note that they wanted their child to get swimming. That was done so as to free the school authorities from responsibility if any accident might happen. This summer (1902) there were no swimming classes, the Board not coming to terms with the Corporation. There is no swimming bath attached to any Board School in Paisley.

Games: no organisation.

The common games are football, cricket, tops, skipping-ropes, marbles, leap-frog, etc. A large field of several acres is contiguous to the school, but has no connection with the school. There is no organisation about the games, nor can there possibly be where so many are in one playground (one for boys and one for girls).

Playgrounds insufficient for games.

Available for games—boys' playground, 3661 square yards; girls' playground, 4237 square yards. We have very large playgrounds, but when you have 1100 boys and 900 girls, it is scarcely possible to organise games in that limited space. The games are usually played at the interval, but a very large proportion go then for dinner. The School Board have opened some of the school playgrounds in the evenings during the summer months, the Town Council paying for men in attendance.

Continuation classes: no physical work.

11,501. Are there continuation classes? Are they successful? Is some physical training given?—There are continuation classes, *four* schools take up the more elementary work. One school has advanced work—English, commercial languages, dressmaking, cookery, shorthand, etc., and we have science and art classes. No physical instruction is given in these classes.

11,502. Generally what careers do pupils follow after school?—The boys on leaving school become message-boys, office-boys, etc., until they are older and stronger to become apprentices. The girls go to the mills, shops, warehouses, and some help at home. There is abundance of employment in Paisley for young people.

No medical inspection: but desirable.

11,503. Is there any medical inspection or examination of the scholars and school?—There is no medical inspection or examination of scholars or school.

11,504.—Is such desirable, in your opinion, at certain periods?—I think it very desirable at periods. I have often thought that the visit of an oculist to examine the eyes of pupils would be of advantage.

Eye defects.

We sometimes make discoveries of defects that parents have been ignorant of—oblique vision, weak vision, scales on the eyes, short sight, etc.

At the request of Mr Boyd, H.M. Inspector, some years ago, I examined about 800 pupils for colour blindness, and, as far as I could judge, about 3 per cent. were colour blind. We have cards with the various tints and colours, and little balls of wool of various colours. They were passed quickly before the children, who were asked to say what the colours were. Mr Boyd had met one of the examiners of the Board of Trade, who told him of candidates being rejected for colour blindness. The test was to find out whether the defect was natural or induced.

An oculist would be of advantage in this case. A difficulty arose in that some of the very poor could not pay for glasses which might be prescribed. A medical man could detect St Vitus' Dance, etc., and would be able to see that children were not neglected by parents in the matter of food or cleanliness, etc. There are some troubles that affect the children. Nowadays school life is pretty hard. A child leaves home at 8.30 and gets home at 4.30, and has home lessons. The working man grumbles about an eight hours' day, but his child is harder wrought. I think we ought to have visits from doctors to find out any weakness in the children that may not have been detected by their parents.

Compulsion up to fourteen: inadvisable after fourteen.

11,505. Should physical training be compulsory in all schools and also for those between fourteen and eighteen?—I think that properly organised physical training should be made compulsory in all schools, and that proper accommodation and up-to-date instruction be provided.

It cannot well be made compulsory for those between fourteen and eighteen. I feel assured that where it is provided, it would be appreciated, and much benefit would follow by directing aright the overflow of energy and animal spirits to strengthen body and mind. A cadet corps would be an excellent institution in a large school. There is nothing better for growing boys at school than rigid military drill, not to imbue them with the military spirit, but to train them to habits of prompt obedience and smartness of bearing. I may say that in Paisley I have never heard any fear expressed as to the children having military spirit imparted by having drill carried on in schools.

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Cadet corps advocated.

11,506. Would it impose an unfair burden on young lads, *e.g.*, apprentices? How could that be avoided?—If *voluntary*, I do not think it would be a burden; it would become an attraction. Such pupils cannot brook to be coerced.

Voluntary and attrac-tive.

11,507. How are the teachers themselves instructed?—The varied and unequal qualifications of those called upon to teach this branch to me constitutes the main difficulty. Some are qualified, others can never qualify from causes physical and otherwise. The great majority of the teachers are ladies, and cannot control large classes of big boys and girls. We have a staff of forty teachers, of whom only thirteen are males. In large schools many changes in the staff occur—new ones come in with varied experience. Some can do a little, some more, others nothing. Teachers who have been in service for many years had no opportunity of instruction in this branch at the Normal School. Those more recently appointed are more up-to-date. As a consequence there is a want of uniformity in the excellence or efficiency of the teaching. When teachers get older they cannot have the same agility for gymnastics, dumb-bells, Indian clubs, etc., hence the necessity of employing an athletic qualified specialist to organise, direct and instruct.

Teachers: properly qualified: necessary t have exper instructors

Teachers' classes.

11,508. Is there any method you can suggest by which the teachers could be kept up-to-date?—I think that a class for teachers should be provided by the Board or Education Department, where every year during the winter months, under a really capable teacher, those who had become rusty might be brought up-to-date, and all new additions to the staff might be instructed for the sake of uniformity. A class of this kind was instituted about eight years ago, but I would suggest that it be a standing institution. In my own school 110 teachers have passed through my log-book since 1888, and it stands to reason that there must have been great differences in the capabilities of those teachers.

Uniform system advocated.

11,509. Should there be an uniform system for all schools?—I advocate uniformity—the constituency of our Board Schools is much the same. I think there should be a regular code for the Infant school, the Junior, the Senior, and the Advanced Departments. One of the instructors in Paisley pointed that out; he said that sometimes scholars came from other schools, and there was the greatest difficulty in teaching them, on account of the variety of methods, whereas if there was a regular code, children could easily be brought to fall in. This code could be revised from time to time. Healthy competitions could be held to test individual and class excellence. In Greenock, I understand, such competitions are held to test the efficiency in drill of the various schools, and with marked success.

Continua classes: physical would be popular.

11,510. Would physical training, as a part of the regular curriculum of continuation classes, be popular?—I think that physical training as a part of the curriculum of continuation classes would be most popular. In 1888, when this school was opened, such instruction was given, and the class was much appreciated. That is a good time ago. Indian club and dumb-bell exercises were then practised; and there was a demonstration about that time which was greatly appreciated.

Physical with me advanta drill in c of alarm fire, etc.

11,511. If drill is taught, on what system is it based?—The drill taught in this school is physical drill to musical accompaniment. In this school the pupils have excellent practice in marching to and from their classrooms. The school is of three storeys, with attics; the classes assemble in the covered playsheds, each with its teacher at the head. To the stirring

tunes of the piano they march upstairs and downstairs three times per day. This provides an excellent means of discipline. The advantage of this was very marked on the occasion of fire breaking out in the attics. About 2000 pupils were marched out in six or seven minutes without panic. They had acquired the orderly habit of marching up and down.

11,512. Do you know of any objections being raised by parents?—No complaints against drill from parents. Deformed or delicate children are exempted.

11,513. As the result of your experience, what effects has physical training, moral, physical, and intellectual?—I hold a strong opinion of the benefits to be derived from systematic instruction in drill exercises. The habits of prompt obedience and orderly behaviour are insensibly acquired. I am strongly in favour of the formation of school clubs for football, cricket, etc. A great deal more could be done in properly organised games in a field, and under the teacher's eye and guidance. It is not so much in the class drill within school that the great moral effect is to be found. In the games in field or school playground, control of temper, nobility, generosity, and magnanimity find scope; endurance and determination to excel are there exhibited. Drill in the class-room secures orderly habits and prompt obedience, but in the games are brought out the manly and moral qualities.

11,514. As distinct from the training, what physical education is given?—I may say that after all that I have stated I confess that we are far behind in our arrangements and efficiency in this most important branch of education. I am speaking for my own school in particular.

11,515. Please furnish all additional information in your power having a bearing on the terms of reference?—I think that I have exhausted all that I can say on the matter.

11,516. There are just one or two points I should like to put to you. You are quite satisfied that all the children at your school are well fed and get sufficient nourishment both for their ordinary lessons and doing their physical training?—Yes, there are 150 out of the 2000 that you might look upon as poor little things, but the rest could quite well go through physical drill and would be the better of it.

11,517. You complain of the want of trained janitors for giving physical drill. Have your teachers gone through a training college?—One-third of them have not. I don't think that the training college would give sufficient instruction for that. I value it no doubt, but in a class where I have so many big boys that I would require a thoroughly up-to-date drill inspector who would take those big boys himself.

11,518. Your classes are mixed classes?—Yes.

11,519. Your difficulty is that the lady teachers would not have sufficient power over these boys?—Quite so.

11,520. They could manage the girls if they had them alone?—Yes.

11,521. Have they a proper amount of training?—No. I think that all under the old third standard could be taught by female teachers, but beyond that we ought to have stern discipline by a male teacher, because the boys do take advantage of the lady teachers when in large classes.

11,522. Would it be possible to break up the classes for drill purposes so that the male teachers could take the boys and the ladies could take the girls?—When the girls come to the fifth and sixth standards and beyond that I think they ought to have more than lady teachers to give them drill.

11,523. We have seen in London most excellent drill given by ladies alone in a ladies' school, and I think it was the opinion of the members of this Commission that the work done by those ladies was quite as good as anything that could be done by men?—It depends on how these ladies were trained.

11,524. You think that the teachers who come to you do not have sufficient training?—Yes. Ours is such a large school and we have such a variety of teachers; except they are kept up-to-date find a difficulty.

11,525. Are there many teachers who don't go through the training colleges?—A great many in Paisley have been 'acting teachers,' and these have not been in the training colleges.

11,526. Does your Board encourage or discourage teachers of that kind who have not been through a training college?—At times they can get no others.

11,527. Then there is a difficulty in getting the number of teachers required?—Yes, there is a difficulty in getting them.

11,528. You complain of having no gymnasium. If you had a sufficient shelter for drilling children in winter as well as in summer, don't you think that a great deal could be done without having apparatus for gymnastics?—What we want is not so much apparatus as a covered place or a shed. A gentleman in Paisley offered £100 to furnish a gymnasium if the School Board would build it, but they were spending too much money on new property at that time, and that £100 was therefore lost. I think that out of 450 boys above the fourth standard we would be able to get a sufficient number of lads who would profit by the exercises. Covered playgrounds required.

11,529. Are the fields used by the children?—No, they are railway property.

11,530. Are they shut up?—Yes.

11,531. Would it be desirable to get these fields?—That is a difficult point. If we had them, it would be pretty difficult to keep discipline. We can enforce discipline much better when the children are under our eyes than when they are stretched over two or three acres of ground. Playing field.

11,532. But I meant this, would it be desirable to have the fields for drill purposes?—The fields are not suitable because they are on a stiff slope; any ground that would be suitable for drilling the boys is near the railway and about 300 yards away from the school. Our own playgrounds are very good for drilling the children in good weather.

11,533. Do many of the boys belong to football or cricket clubs?—They are not old enough. They play in the playground, and then they play very often in the streets.

11,534. There are a good many small clubs in Paisley?—Yes, but they are not organised.

11,535. You say that for one year the children went to the town's baths for swimming?—Yes, for one or two years. Swimming.

11,536. Would you approve of that being continued?—Yes, because the best swimmers are made in the baths in towns. Many boys and girls learned to swim during these months. I think it is a capital exercise and a very good substitute for physical exercise in the summer months.

11,537. I think you say that physical exercise and drill are of great help in maintaining discipline in the school?—Yes. Physical drill: good disciplinary effect: might improve manners.

11,538. Do you think that it improves the manners of the children?—I think so—in school, at any rate.

11,539. Have you any complaint to make as to the manners of the children?—Not in school.

11,540. But out of school?—Yes, I have frequent complaints. I think that what has been taught and insisted on in the school is neutralised outside.

11,541. Have you any suggestions to make with regard to the improvement of the manners of the children?—The only way is for the teacher to keep pegging away to secure good behaviour, but beyond that we have not very much control.

11,542. Do all your teachers insist on good manners from the children?—Yes, I have never had any difficulty in school about behaviour.

11,543. How much time could be devoted to physical training without interfering with the class work?—The most we could devote would be one hour per week for each boy and girl. So many things are now crowded into the Code that we have to leave reading, writing and arithmetic to the very end. Time: one hour per week.

11,544. We have evidence that where more time was given to physical training, it benefited the other work, that the children were smarter and brighter and Curriculum: difficult to find time

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came back to their ordinary lessons more able to take part in them?—Yes, but something else must be left out.

11,545. No, nothing else went?—It depends on how many subjects were taught. If you have a great many subjects it is impossible to get them all crushed in.

11,546. But if the children come to these subjects brighter and with more go, surely they can learn them in a shorter time?—So many subjects must be pressed into the school hours. Some subject must suffer, and I say that some subject should suffer, in order to increase the drill. I should wish to have physical instruction as one of the compulsory subjects of school life.

Half-time scholars.

11,547. You know something about the half-time school?—Yes.

11,548. These children do very well in half the time?—Yes, but they are the pick of our children.

11,549. Do you think so?—Yes, I think they are.

11,550. Of course they are kept at school regularly during the time they are there?—There is this very important fact that the children know that their work is noticed and that they are examined every month from head-quarters; that makes them far more diligent than either their father or mother can make them. They know that if they stand well in their examinations they will stand well with the factory authorities.

11,551. That shows that some more time could be devoted to physical training?—In the half-time school there are a great many things not taught which we have to teach.

11,552. Why have you to teach them?—Because the Board exacts them from us.

Exactions by School Board.

11,553. *By Sir Henry Craik.*—Do you mean the School Board?—School Boards generally demand that from us. They say: 'This school can do this and 'that, why can you not do it?' We are urged on by this competition as to who can do the most.

11,554. *By Sir Thomas Glen Coats.*—You think you are rather treated as a step-child in regard to physical training?—I am in correspondence with my Board as to this, and I allowed one or two of them to see my answers. Seven or eight of the Board Schools are well supplied and have trained drill instructors, but in my instance my janitor, being away for two years and then being sent to another school, has left me in the unfortunate position of not having a janitor to give proper instruction.

11,555. Are your Board in sympathy with physical training?—I think so. My school is in a temporary position just now in respect to a physical instructor.

Drill.

11,556. *By Sir Henry Craik.*—You say that there are no complaints from parents as to drill?—No, there are none.

11,557. You have never heard a disagreeable or cantankerous parent say that he would not allow his child to take part in the drill?—No, unless there was some defect in the child.

11,558. Suppose that had occurred and that some children had been exempted from the training you have described, the marching upstairs and downstairs three times a day?—No one objects to the marching.

11,559. But suppose some one objected and said that they wanted their boy or girl to sit still? If that had been the case and you permitted it, then it might have led to a great disaster on the occasion of the fire about which you told us?—Yes. After all these children had left the building I sent through each room to see that there was no child left in school. I considered that this physical training was a splendid thing, and my sending them out was my duty whether a parent objected to it or not.

11,560. But permission of any option in such a case might have led to a tremendous catastrophe in such a contingency?—Yes.

11,561. If a parent refused that permission, your only alternative would be to close the door of your school to him and to say: 'You cannot send your 'child here?'—Yes.

11,562. The Department has held that you can do that?—Yes.

11,563. What is there in the Code that requires you to add more subjects than you wish?—I am afraid it is not the Code at all; it is the system.

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11,564. *By Mr Shaw Stewart.*—You say that you could not get more training than an hour a week without dropping something out of the time-table?—That is so.

Time: demands of School Boards.

11,565. That is owing to the demands of the School Board?—Yes.

11,566. Do you think that if a strong recommendation were made by this Commission, emphasising the importance of physical training, that would tend to lessen the competition among School Boards you spoke of just now?—I would make it compulsory all round. It would certainly have the effect you mention, but it would require to come with authority from the Commission.

11,567. At present it is the insistence of the School Boards on so many subjects that is an obstacle to providing adequate physical training?—Yes, the want of time.

11,568. It has been suggested to us that in towns schools might group together and acquire the use of public parks for football, etc., on different days of the week. Is there any public park or field that can be acquired in that way by the Paisley School Board?—Our Town Council have the charge of the parks, and they are not very anxious to throw them open to football or other clubs of that kind. These parks are frequented by older people, and they could not very well be made available for football and other games.

Playing field centre for group of schools.

11,569. Would it be possible to secure a field?—Yes, because Paisley is not a very closely built place. Less than a mile would take you into the country. I think it would be a splendid thing to have a field for a group of schools. In the Glasgow Academy, the school stops on Wednesdays at 2.30, and they have a field further out in the country where the boys are free to organise games after that time.

11,570. Perhaps if some recommendation were made by this Commission in that direction, it might draw the attention of the School Boards to that matter?—Yes. I hail with delight the revival of cricket in Scotland.

After fourteen not compulsion but attraction advocated.

11,571. You say, on the question of compulsory physical training of boys between fourteen and eighteen, that it cannot be well made compulsory. Why do you say that?—The Scottish boy does not like to be coerced; he must be drawn.

11,572. He is compelled to go to school?—But not after fourteen.

11,573. If it was made part of the school curriculum that they should attend continuation classes for mental and physical training up to eighteen, do you think that that would be quite impracticable in Scotland?—I might quote what the convener of the evening classes in Paisley told me. He thought it would be a good thing to have these classes three times a week, two nights being given to ordinary instruction and one night to physical drill for all boys between fourteen and eighteen.

11,574. With reasonable exemptions could they not be made compulsory?—I am afraid not; but they might be made very attractive.

Curriculum: lack of time owing to competition with other schools.

11,575. *By Mr Fergusson.*—I should like to get at the bottom of this question of overloading the curriculum. You say it is not the Code, and I know that. What is it?—One school does it, and another school does it, and we have all to try to keep as much to the front as we can. There is manual instruction, hand and eye training, cookery, and so on.

11,576. And there is also physical training. If you like to put it into your time-table no one will object?—We would require to cut something off.

11,577. But don't you think that it is of sufficient importance to do that?—Yes, I do.

11,578. Will anyone hinder you if you choose to do it?—I suppose not.

11,579. You say you can do it, and still you don't do it?—It is just this, that we have to divide our subjects as well as we can to find a place for all.

11,580. If the Education Department were to demand

more time, you would do it, and you would not be sorry to do it?—No, I would be very glad to do it.

11,581. One difficulty you say you have in regard to the ordinary school teacher taking the drill classes is that you have so many lady teachers, and the boys take advantage of them. Does that not apply to all sorts of lessons?—Not to the same extent. Drill is an exacting subject.

11,582. You said that when you had swimming, all the parents were required to sign their consent. Did any of them object?—Yes.

11,583. Did many object?—Not very many.

11,584. Why did they object?—They were afraid of their children getting drowned or meeting with some accident.

11,585. You said that you thought that children were too hard wrought?—I think they are.

11,586. How would you remedy that?—I cannot say very well. We have tried to reduce the home lessons.

11,587. Can you not do that?—We do it. But apart altogether from that work, there is the length of time that they are in school.

11,588. Is there any need for home lessons?—There might be for some pupils, and there are many parents who expect them, because that is the only means they have of seeing how their children are getting on.

11,589. *By Mr M'Crae.*—What system of physical training do you adopt in your school? Do your instructors have any special system?—Some of the teachers use Cruden's book, and others just follow their own taste.

11,590. The teachers themselves are at liberty to choose the system?—Yes.

11,591. You don't have a uniform system throughout the school?—No.

11,592. Are the exercises all done to musical accompaniment?—Nearly all.

11,593. You say that you have no physical instruction at all in the continuation classes?—That is so.

11,594. You had physical instruction at the beginning?—Some evening classes, but not continuation classes, were held in the Camphill School. We had a splendid class for Indian clubs and dumb-bells.

11,595. Why was it discontinued?—It was not taken up by any person paid by the Board. It was taught by one of our own teachers.

11,596. There has been no effort made to establish physical instruction in the continuation classes?—No.

11,597. *By Mr Alston.*—You say in your evidence, in answer to the question as to how the children are clothed, 'I would remark that during the fourteen 'years during which this school has been open, there 'has been marked improvement in the cleanliness, cloth-'ing, and feeding of the children.' That is not *apropos* of anything you do in school?—Yes, it is. I think the teachers have a good deal to do with that, and it is to their credit; in the matter of cleanliness, by insisting upon it. In fact, I have been before the Sheriff once or twice in connection with defaulting children, and the parents would say, 'So and so 'sent my child home,' and the Sheriff would ask if I had done so, and I would say that I did, and I would give my reason, that the child was not clean, and the Sheriff would say, 'If you had done otherwise I would 'have censured you.'

11,598. That does not apply to the clothing?—I think they are very well clad, with the exception of the few I have referred to. There is abundance of work in Paisley.

11,599. With regard to your difficulty about your drill instructor and janitor?—That is temporary. *Mr J. Taylor, M.A* 18 Sept. '02.

11,600. If you got the right man back, then you want him to be both janitor and instructor?—Yes, I could arrange my time-table more easily.

Uniform system preferable.

11,601 Would the better system not be that you should have a uniform system of instruction in physical training?—Yes.

11,602. There should not be various instructors in that sense. Suppose all your teachers were sent to a physical training college, and on getting certificates, came back to you thoroughly competent to teach all your children, and using one system, would that not be better than a janitor or two janitors?—Yes, but I was referring to making the instruction uniform over all the schools of the country.

11,603. It seems absurd that in your school there should be some teachers teaching Cruden's system and some other teachers using a different system?—Yes.

11,604. Is there any danger of an old soldier being not up to date?—Yes.

11,605. So, on the whole, the other system would be better if you could get it worked out?—Yes, if I had the teaching staff uniformly trained.

11,606. You spoke about the boys' keenness for drill?—Yes, I find that when they are drilled thoroughly and well, they enjoy their drill lessons.

11,607. You mean, when they get thorough drill?—Yes.

11,608. With discipline?—Yes, and sharp commands to be obeyed at once.

11,609. Could that not be taken advantage of in continuation classes somewhat in the way you have indicated, counting on the keenness of the boys after school age?—Yes.

11,610. You think that what you mentioned—two nights of ordinary instruction and one night of physical drill—would be of great advantage?—Yes.

11,611. Would that be sufficient inducement for these boys to come without any compulsion?—It would draw more to our evening classes.

Swimming: girls and boys.

11,612. *By the Hon. Thomas Cochrane.*—Did the girls attend the swimming baths as well as the boys?—Yes, and they were capital swimmers. There was a female instructor for the girls. I would not send the children to the baths unless they had an instructor. If they did learn to swim without an instructor, it would be with difficulty, and they would use wrong strokes.

11,613. A great many children have learned to swim at Paisley?—Yes.

11,614. Had you any trouble with the girls; were they prevented from swimming at any times?—Sometimes their parents would say that they did not want them to go.

11,615. You yielded to the parents?—Yes.

11,616. There was no danger of any of these girls being injured by swimming at any improper times?—No.

Medical examination.

11,617. When speaking of medical examination, you said that you thought that defective eyesight would be discovered if there was medical examination and would be cured if taken in time?—Yes.

11,618. You are afraid that there might be a difficulty in supplying the children with glasses?—Yes, that has been put before me by parents who said that they could not afford to buy glasses.

11,619. Some of the schools have school funds, which they raise by giving exhibitions in physical training. Such a fund might be used for providing glasses?—Yes, that would be a very reasonable way.

The witness withdrew.

Mr H. E. Peacock, examined.

Mr H. E. Peacock.

11,620. *By the Chairman.*—You are headmaster of St. Mary's Episcopal School, Kirriemuir?—Yes.

11,621. Are all the children in your school Episcopalian?—No, the majority of the children are Presbyterian. I should say that perhaps 20 per cent. may be Episcopalians.

11,622. You have prepared a statement which you might kindly read?—Yes.

I am a trained certificated teacher of the first class. During my two years' residence at Chester Training College I was a Volunteer in the College Battery of the Cheshire and Carnarvon Artillery, and I hold their certificate of efficiency

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I have been a teacher for twenty-three years. My present appointment I have held for seventeen years.

The school buildings are healthily situated, standing within a fair-sized playground of 78 feet by 64 feet, and having a grass park as its western boundary.

There are 170 names on the roll, with an average attendance of 145. The youngest children are four years of age, and the oldest fourteen years.

The parents are farm hands, factory workers, tradesmen and shopkeepers.

Feeding.

Most of the children are healthy-looking and well fed, though a few look as if a more plentiful supply of porridge would benefit them. On the whole, I should say they are well fed.

There is an improvement in the housing, though some of the older buildings do not receive the amount of sunshine that is necessary to make dwellings thoroughly healthy.

Clothing.

As a general rule, I should say that the pupils are warmly clad, thick woollen underclothing being worn by nearly all during the greater part of the year.

The school managers do not supply any meals.

Some of the children live as much as two miles from the school, but the majority live within a radius of half-a-mile.

Military drill.

The boys receive the ordinary military drill from the sergeant, consisting of squad and marching drill, extension motions and free gymnastics. This takes place every Tuesday from 12.10 to 1 o'clock.

Free gymnastics: popular.

The drill given inside the schoolrooms consists of free gymnastic exercises with and without musical accompaniment. The Infants' Divisions have a short time daily for this, about seventy minutes a week; the other divisions forty minutes a week. The drill sergeant has attended for seven or eight years to instruct the boys.

The drill and exercises are popular with most children, and certainly they enjoy the movements more when accompanied by music.

Playground.

The playground is large enough for purposes of military drill, but the accommodation inside the school can only be obtained by moving the desks.

Games: no organisation.

There are no games organised. The children seem to play certain games at certain seasons of the year, *e.g.*, in the early spring, all the boys play at the bools (marbles). A good many girls engage in this game too, but the handball is in greater favour with them. There is not room enough in the playground to permit football when all the children are in it, but occasionally a class of boys is given ten minutes to have what they regard as 'a right game' by themselves.

Continuation classes.

There are no continuation classes in connection with St Mary's School, but the School Board for Kirriemuir organise such during the winter months.

The Chairman of the Board, Lieut.-Colonel Davidson, commanding the Black Watch Volunteer Battalion, informs me that the Board had had a class for physical training that was fairly attended.

On leaving school the pupils enter the factories (jute and boot), engage themselves to farmers, learn a trade, or enter a shop or an office. Many of the girls become domestic servants.

Later, some of the boys join the army, and occasionally the navy. Probably one per year would represent those becoming soldiers, whilst one in three years would account for those joining the navy. I do not hear of any becoming fishermen.

Medical examination, desirable.

We have epidemics of measles, whooping-cough and influenza which seriously affect the school, otherwise there is not much sickness. On an average, I suppose one death per year would account for the mortality. Occasionally a medical man has visited the school at the instance of the local authorities, but there is no periodic examination of the pupils.

I think it would be a good thing if a medical man visited the school at the commencement of every session to report upon the pupils in regard to their eyesight, teeth, hearing, etc.

Sometimes children are suffering from disease and yet have a healthy appearance. A teacher will only discover these facts by accident. It is very desirable that a teacher should be acquainted with the condition of the constitutional health of the pupils. I think physical training should be compulsory for all children, except such as are certified by a doctor to be unfit for it. From fourteen to eighteen they require control and direction more than ever they did, for they begin during that period to kick at authority, and it is a period when the frame is capable of being braced and set up.

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Compul

Most teachers have had some training, military (Volunteer) or other. As the community at large will eventually be benefited, I think the cost of (say) a fortnight's course of (say) the training organised by Colonel Cruden might be provided for the teachers who are willing to undergo it. I should say that it should be compulsory in all the training colleges and for all pupil teachers.

Teacher

I do not think there is much loafing during the day-time, for, as a rule, boys are eager to go to work. At night they might perhaps be more usefully employed. For example, when the Volunteers parade there are a good many youths of (say) sixteen to nineteen that follow and look on, when they would be better in the ranks. There are plenty of facilities here for football, cricket, golf, quoits, fishing, etc., and to a considerable extent these opportunities of healthy recreation are embraced.

Loafers.

With regard to physical training forming a part of the curriculum of continuation classes, I think it should prove popular if the training could be given in a properly-equipped gymnasium.

Continua classes.

When physical training was tried here it was found difficult to secure the Public Hall with anything like regularity; and then it was felt that a skilled and practised teacher was needed to direct and control the pupils. Without proper guidance they attempt amiss, or too much or too little.

Rifle clubs would be desirable and popular if they gave sufficiently frequent practice to enable the members to become good shots. I remember that as a Volunteer I got plenty of everything except actual target practice. It was a general complaint that we might drill in all sorts of weather, and suffer sunstroke and chilled hands and feet. We carried a carbine and clicked the trigger often enough, but we had little chance of discovering whether we could shoot straight.

Rifle club

I am of opinion that all drill should be after the pattern practised in the army. The army should set the standard; then, on joining either the regular or volunteer forces, there would be nothing to unlearn and time would be saved.

Military

I certainly think plenty of apparatus should be available. A well-equipped gymnasium should be established in every town, and every encouragement given to the youth of both sexes to develop themselves physically. Cycling, golfing, and especially walking develop the body in the fresh air and in pleasant surroundings.

Public gymnasia

It would be a great thing if everybody while young could learn to swim thoroughly well. Any physical acquirement has the effect of heightening the pleasure and value of existence. Under particular and unexpected circumstances it supplies the individual with the nerve and presence of mind indispensable to the rendering of valuable service.

Swimmin

I never heard parents object to drill of any kind unless on the ground of physical unfitness. Certainly any training smartens and sets up the general bearing of a boy or man.

The ordinary rules of health receive attention. The principles of ventilation, the value of sunshine, food, and clothing, the way to eat, what not to eat and drink, the injurious effects of the use of tobacco to the growing youth, the necessity of courtesy and generally good manners come under the general knowledge subjects in object and nature knowledge lessons, and with the elder pupils form the subject-matter supplied to them for their writing exercises.

Physical education.

There is in this town a Boys' Brigade. This organisation has doubtless done much good, but a class of boys most needing the discipline there supplied abstains from joining it. Perhaps a cadet corps affiliated with the Volunteer corps might prove attractive to boys. There

Boys' Brigade: cadet corps

is no doubt that a smart uniform, considerate treatment, and the use, under skilful direction and strict control, of a *real* rifle would draw many. By the time they were eighteen they would be fit and eager to become regular Volunteers. The commanding officer of the Volunteers here would be able to give valuable aid in the promotion of such a body. He has for years taken a keen and active interest in any scheme that had for its object the physical and moral welfare of the youth of Kirriemuir. He had a great deal to do with the promotion of the Boys' Brigade, and as member (now chairman) of the School Board is in close touch with the younger community of the town.

11,623. You say that you don't supply any meals to the children. Do the managers take any means of seeing that the proper meals are given?—I do that on my own account. I endeavour to find out whether the children who come from a distance are likely to get a comfortable meal at one o'clock. I think that they are all fairly well provided. Children who come from a distance have often friends in the town to whom they go for dinner, and sometimes they appear to be better off than a very few who live in the town. There are places near the schools where soup is supplied at small cost, and many of the children take advantage of that.

11,624. What do you mean by 'extension motions'? Do you mean physical exercises?—Yes. Cruden's book begins with what are called extension motions. Our sergeant calls them extension motions to differentiate between them and more advanced drill.

11,625. Your physical exercises are only given once a week?—Yes, by the drill sergeant, and only in good weather, because we have no provision for giving them under cover in bad weather.

11,626. Have you got fixed desks in your schoolroom?—No, they are not fixed.

11,627. Could you move them so as to leave room for the drill?—That is done in the drill that I give myself. The drill sergeant does nothing inside.

11,628. You say that in the case of children suffering from disease, and yet having a healthy appearance, a teacher may only discover the fact by accident. Do you ever discover anything wrong yourself, by accident?—Yes, I remember an instance two years ago, when a parent came and asked me to warn the teacher to be very gentle with her son. I asked her why she made that request, because the child looked a very healthy boy, and I had had no complaint from the teacher about him, and then she opened his waistcoat and shirt and showed me his chest. There were two or three large holes, which, I suppose, would be due to scrofula or something of that kind. I should never have discovered it if she had not given me the information that way. There was nothing wrong with the boy in appearance or in conduct, except that he sometimes felt a little fatigued, and any pressure in the way of lessons was an objection.

11,629. I suppose you are acquainted with the various children of both classes in Kirriemuir between fourteen and eighteen?—Yes.

11,630. You think that a little more physical exercise would do them no harm?—It would do them a great deal of good. It is the control over the children of that age that I had in my mind when giving my evidence. When they leave school at fourteen they think they are getting free from authority and that they have gained their liberty. I think that sometimes—indeed, very often—the control or guidance of their guardians is not wise, it is often indifferent; they don't take the trouble to see that the children are properly occupied and employed during their leisure hours in the evening. They have a good deal of leisure even after they go to work, and that time might be very usefully employed in continuation classes; and I think that physical training would form a very interesting and valuable part of such classes.

11,631. I see that you say that it would be a great thing if everybody when young could learn to swim well?—Yes. I think that swimming, apart from its being a pleasant recreation, does a very great deal towards giving a boy or girl a feeling of independence. In deep water there must be either a feeling of danger or a feeling of perfect safety, and what applies in the water I think applies equally on land. I don't think that any good that may be done by physical training remains at one point; I think it influences the individual to a very great extent in many directions in after life.

Medical inspection of school premises.

11,632. Do you think there would be any value in the medical superintendence of school buildings, looking to the ventilation and so forth?—I think it would be a very good thing if some recognised authority were to come at certain times and to lay down emphatically whether or not the state of affairs was satisfactory and to say what improvement was desirable.

11,633. In your case your managers meet at certain intervals?—Yes.

11,634. They meet practically the same as a School Board would do?—Yes.

11,635. Any matter that you have to lay before them you bring up at those meetings?—Yes.

11,636. Do they visit the school between the meetings?—Yes, without any warning.

11,637. You speak about the Boys' Brigade at Kirriemuir, and you say that the discipline keeps them from joining it. Why is that?—It repels them.

Rifle shooting

11,638. You say that there is no doubt that drill with the rifle would draw a number?—Yes, one of the chief objects of a volunteer is to learn to shoot. I think in the past the volunteer had the idea that his chief purpose was to go through certain movements of what I might term a spectacular nature. I know that in my case I made very little actual use of the rifle, and, of course, that would apply to a very great many others.

11,639. You were a gunner?—Yes, I was in the artillery.

Cadet corps.

11,640. You think that if the commanding officer of the volunteers interested himself in the promotion of a cadet corps, it would be very useful?—I think so. In fact, that officer said he would be glad to do so, and he knew many of the officers were equally willing.

11,641. The commanding officer of the volunteers, I see, is also chairman of the School Board?—Yes.

Games: no playing field.

11,642. *By Sir Henry Craik.*—I observe you say that your boys play certain games at certain seasons of the year, but the only one you mention is marbles?—I thought I might be trivial if I entered into the details of their games.

11,643. But a specimen game would not be marbles?—I suppose they play the usual games.

11,644. You specially say that the girls play handball and the boys play marbles?—If the boys could play football they would play it in preference, but the playground is not big enough.

11,645. The grass park that you mention is not available?—No.

11,646. Why not?—It is rented by a butcher in the town.

11,647. You mentioned it as if it was connected with the school?—I mentioned it in order to show that the building was healthily situated, that it was not closed in by a number of buildings.

Playing field

11,648. *By the Hon. Thomas Cochrane.*—Would there be much difficulty in getting the whole or any part of that park for a playground?—A part of it might be obtained.

11,649. Would it be very expensive to obtain, say, an acre?—I don't suppose there is more than 2 acres altogether.

11,650. What is it worth?—About £3 an acre.

11,651. For £3 a year you could get a good playground?—Possibly.

11,652. Your school is a voluntary school?—Yes.

11,653. You have no rates to fall back upon?—No.

Public park and open space in Kirriemuir.

11,654. Could anything be done by voluntary effort?—It might. But Kirriemuir is particularly fortunate in possessing what I might term recreation grounds for children. There is a public park, and beyond that there is a large space termed the 'Hill,' which is open to the

Mr H. E Peacock. 18 Sept. '02.

public for all sorts of games. I suppose there will be 50 acres there.

11,655. You are therefore very well situated in 'Thrums'?—Exceedingly. In summer time there are hundreds up there taking part in cricket and such-like games. It is the healthiest spot in the neighbourhood.

The witness withdrew.

Mr G. F. Macnee.

Mr G. Fraser Macnee, examined.

11,656. *By the Chairman.*—You are Clerk to the Church of Scotland Education Committee, who have training colleges in Edinburgh, Glasgow, and Aberdeen, each college having a large practising school attached to it?—Yes.

11,657. You are also Lecturer on Physical Training in the Edinburgh Training College, and Captain of the College Company, 4th Volunteer Battalion The Royal Scots?—Yes.

11,658. Will you state where you were educated?—I was educated in the Buccleuch Public School, and served in that school as a pupil teacher for the full period of five years. I attended the arts and some of the science and medical classes at Edinburgh University.

Personal experience and training.

11,659. State your former experience, and the time in your present position?—I was appointed to my present position in September 1887. In 1896 I attended a course of instruction in the Aberdeen Physical Training College, and obtained the certificate of the college. I began to give instruction in physical training to the male students in the Edinburgh Training College in October following, when such training was first introduced in that College. In the summer of 1899 I attended a course of instruction in the Military Gymnasium at Aldershot, and received a certificate there. I also hold a riding certificate (1901) from the Riding School of the Royal Engineers, Aldershot, and the ordinary Army certificate as captain in the Volunteers. I was two years a member of the Edinburgh University Company of the Medical Staff Corps (which company is confined to medical students), and I have held a commission in the 4th Volunteer Battalion The Royal Scots since 1895, previous to which I had been for a short time private and sergeant in the same battalion. From my boyhood I have taken a great interest in all athletic matters—have played football, cricket, golf, jumping, running, and have cycled, ridden and boated, but, in the main, my special hobby has been walking, and I have frequently walked over fifty miles and sometimes over sixty miles in a day.

Number of students.

11,660. What is the average number of students, male and female?—The following is the average number of students at the different training colleges of the Church of Scotland, viz.:—

	Male.	Female.
Edinburgh, ...	91	128
Glasgow, ...	78	172
Aberdeen, ...	25	104
Total, . .	194	404

Ages, etc.

11,661. What are the ages of the students, and generally their parentage and future careers?—The ages range from eighteen years to twenty years. The males are generally the sons of well-to-do working men, shopkeepers, farmers, etc. The females are from the same classes, but a number of them are from families in exceptionally good circumstances. The majority of the males and a number of the females become university graduates, and all intend to become teachers in elementary or secondary schools.

11,662. Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.*, football, cricket, etc. (1) Are they organised and supervised? (2) Is there a playing field?

(*b*) Drill: how taught, and by whom?

(*c*) Athletics, *e.g.*, jumping and running.

(*d*) Handicrafts.

(*e*) Voice training.

(*f*) Cadet corps, rifle-shooting.

(*g*) Swimming. Is there a swimming-bath easily accessible?

(*h*) Gymnastics, free or applied.

Is a gymnasium attached to the College?—The following remarks apply chiefly to the Edinburgh Training College, although the work done at Glasgow and Aberdeen is carried out on similar lines:—

Games.

(*a*) The male students have a football club, a cricket club, and a golf club. These are all duly organised, and a general interest is taken in them by myself and other teachers, but no regular supervision takes place. The college has no field of its own, but advantage is taken of the public parks. The members can generally secure good positions in these parks, as they can exercise at hours which are not suitable for the ordinary park players.

Physical drill: and ma mixed.

(*b*) The females are taught physical drill on the Swedish system by Mr J. C. M'Gavin.

The males receive instruction from myself in physical drill according to a programme of my own, after the style of the Aberdeen Physical Training College course, which includes a large number of the Aldershot gymnasium exercises.

(*c*) Jumping and running are taught as part of the physical drill course.

(*d*) In Aberdeen College classes in woodwork are conducted.

(*e*) All the students are carefully practised in giving the words of command in the physical training course. Singing and phonetics are taught separately at the college.

Volunte Compar annual

(*f*) The students are all encouraged, but not compelled, to become members of the College Company of the 4th Volunteer Battalion The Royal Scots, which was formed in connection with the College in 1899, and of which I am captain. Nearly the whole of the students enrol as members and become efficient Volunteers. Last year the company had 109 efficient members.

They undergo the annual recruit drill, company and battalion training, and take part in the annual camps. They also perform the requisite rifle shooting laid down by the Government regulations, and have prize competitions and shooting matches like other Volunteer companies. The company attended, with the battalion, the following camps:—In 1900 at Lochcote, one month; in 1901, at Aldershot one week; and in 1902 at Tyndrum, one week. In May last I took 80 members of the company a most successful march for five days through the counties of Roxburgh and Northumberland—the longest distance travelled in one day being twenty-six miles. Opportunities are given at camp for athletic sport of all kinds, and these are keenly taken advantage of by the students. During the week at Aldershot I asked and got permission from Colonel Fox to take my company through the military gymnasium there. Not only did we see the building, apparatus, and squads at work, but at the request of Colonel Fox the staff also gave a demonstration of the main features of the course.

Swimmi

(*g*) There is a public swimming bath within a short distance of the College, and one or two lessons in swimming are given during the session.

Free gy nastics,

(*h*) There is no gymnasium attached to the College. In the College hall free gymnastics are taught, and also dumb-bell, Indian club, bar-bell, rifle and bayonet exercises, etc., and often to a musical accompaniment.

Time all

11,663. What time is allotted to these, or any of them, *per diem* or per week?—Are any of these taken in ordinary College time?—The training College time-table allows one hour per week during the session for physical training. The rifle shooting, a number of the volunteer drills and the games are done outside the College time-table hours.

11,664 How far are the existing opportunities for physical training taken advantage of?—In physical training the existing opportunities are very largely taken advantage of, and are greatly enjoyed. It is to be regretted that the games are taken advantage of by a much smaller number of students.

11,665. What, in your opinion, are the results and effects of physical training—moral, physical, and intellectual?—The results from a systematic physical training would be exceedingly great—beneficial not only to the individual but also to the State. I have it on the authority of several of my colleagues on the training college staff that the intellectual work of the students is being influenced for good by the physical and military side of their training.

11,666. Is a uniform system of physical training desirable?—I do not think it necessary to have a uniform system of physical training. It might be an advantage to have for guidance a comprehensive general programme laid down (as is done with regard to other subjects in the more recent Codes of the Education Department), but leaving to individual teachers the carrying out of exercises suitable to the requirements of the district or institution.

11,667. How can the present system be amended and developed?—I think more time should be given to the subject during the training college course. Another hour added to the present one hour per week would even make a great difference. This, of course, is much in the hands of the Education Department, which during the past year has given a great impetus to physical education in training colleges by their issue of circular 329.

11,668. What is a just proportion of time to be devoted to physical training in relation to study?—A daily lesson of half-an-hour should, I think, be given. This would be a benefit to study.

11,669. What physical education, as distinct from training, is given at the college?—During the practical course, hints are constantly given bearing on the physiology of the body, and the muscles and organs brought into action by the various exercises. Some lectures are also given on hygiene and the laws of health.

11,670. Do those leaving the training college keep themselves up-to-date in physical training?—All who have to teach physical training in schools must, to some extent, keep themselves up-to-date in the subject. In general, such teaching is given without gymnastic costume and under conditions which are not conducive to proper effect. Much depends on the headmaster taking an active interest in the subject. The fact that so many headmasters all over the country are, of their own free will, attending Saturday or vacation courses in physical training is having an excellent effect.

11,671. Are the students medically examined whilst at college, if so, how often?—The students are medically examined on entering and leaving the college, and also on being enrolled as Volunteers.

11,672. Is any college register kept, showing the height, weight, chest girth, spirometry, biceps girth, etc.? If so, how often are these measurements taken, and by whom?—No register is kept other than the Volunteer register, which gives the height, weight, and chest measurements of the student when enrolled. I have often thought that such a register would be most useful, but under present conditions as to time it is impossible.

11,673. State all other information and your views derived from your experience, particularly with regard to the last part of the Terms of Reference?—My experience as to physical training having been largely connected with young men going out to all parts of the country as teachers, I have ever been alive to the responsibility and have constantly kept before them the benefits that would follow to their pupils and themselves by their attending, on every possible opportunity, in school and out of it, to physical training.

The time allotted to this subject on the college time-table—one hour per week—is small, but we always tried to make the most of it. Practically, all went into the work heartily, every student being attired in proper gymnastic uniform. With regard to costume in schools I think every class-room should have its stock of gymnastic shoes for all the boys and girls in the class, as well as belts for the boys. Without this rig-out much of the physical drill lesson is a waste of time. The initial expense might be great, but it would be well worth the money. Braces on boys and tight-fitting dresses on girls are the great drawback to physical development and exercise. A teacher in gymnastic costume would feel the benefit of the lesson as well as the pupil.

Special costume desirable.

The time allowed in the ordinary day school for physical training must be increased. At present it is small, and it will remain so until the Education Department recognise the importance of the subject by offering a special and substantial grant for its excellence. I think, too, that a great improvement would be brought about by friendly visits of specially qualified inspectors instead of the examination of this subject being left to occupy, say, five minutes of the time of the annual visit of the present ordinary school inspector.

Time for training in day schools must be increased.

Expert inspectors.

The teacher should be allowed great freedom as to outside drill. Undoubtedly the aphorism for athletes is walk, walk, walk. Physical training on every possible occasion should be done in the open. There should be at least one systematic walk a week into the country in school hours for each class. A smart walk, sometimes at ease, and sometimes at attention, with an occasional halt to explain some flower, tree, rock, or other natural object, or even to say a word on the lie of the land as regards military topography. Some years ago, as a pupil teacher in Hawick, with the consent of a sensible headmaster, in school hours often did I

Drill and exercise out-doors.

> 'In martial order,
> Up by Teviot's flowery border,'

march my class—and a big one too—reconnoitring that most historic and ballad district, including the hills of Ettrick—the home of that gallant colonel whose evidence before the Commission must come first—the Honourable John Scott Napier, at present commanding Aldershot Gymnasium, though generally—like true sons of heroes slain at Flodden—we had our eye on the other side of the Border—broad Northumberland. Never in school life did I experience anything to interest children so much as such a march. The word 'military' need frighten no parent. At this stage of a child's life I would train neither for the military martinet nor for the commercial magnate. The first and simplest movement in physical drill is, in a sense, purely military drill.

On their walks, going and coming, I would march to a tune, local and patriotic, when such a song exists; and surely poor must be the district that cannot claim some suitable air. Open-air work is a further test of discipline which, to my mind, should be firm but genial, with an occasional joke for the bairns. It is no discipline at all that can't stand a joke now and again. The Nature Knowledge walks of the Code, at present optional, should be made compulsory; and in what way could the objects of these walks be vitiated by the march being accomplished on sound physical lines?

Code: nature knowledge walks should be compulsory.

The Aldershot system of physical training is a magnificent one, and lucky is the man who has been accepted and passed through it. The greater part of it, however, is not suitable for the ordinary school. In the gymnasium at Aldershot you have the picked men, physically, of the British army. They are chosen, as I understand, from the various regiments as likely to excel in gymnastic work before enrolling in the school at Aldershot; and yet even from among these some are sent back as unfit to reach the high standard of efficiency required. The course is largely a gymnastic one, and gymnastics, I do not think, should be given before a child is fourteen years of age. In the training college the exercises given in physical training include nearly all the Aldershot gymnastic exercises.

Aldershot system.

The formation of a volunteer company from the students in training has, I think, added a new and important factor to training college life, though this

Volunteering important factor.

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part of the training is not officially recognised as yet. Much labour has been given and many difficulties have been overcome, but by encouragement and support from the committee, Professor Laurie, the rector, and lecturers, and from Colonel Douglas Elliot, the company in Edinburgh Church of Scotland Training College is now quite established. Colonel Elliot says of the company: 'I was very pleased, indeed, 'through the exertions of Captain Macnee, to secure a 'company of excellent recruits. Physically, they are 'above the average, and of course are able from their 'training to take a much more intelligent grasp of the 'principles of drill and discipline. We have now had 'experience of the company for three Volunteer years. 'They attended all camps, and were enthusiastic workers. 'I consider it of the very greatest importance to 'these students to have the benefit of military drill 'and discipline at this stage of their career, not to 'speak of the physical benefits which they derive from 'the exercise.

'I think it is quite practicable for every training 'college in the kingdom to arrange for a similar volun-'teer company, or section of a company, and were it 'made compulsory by Government, I consider that not 'only would the teachers themselves benefit, but their 'training would have an immense effect for good on the 'training and discipline of children throughout the whole 'country.'

Such a company, I fear, will always be somewhat difficult to work, unless captained by an officer belonging to the institution, who can at any time and at the shortest notice, when he sees an advantageous change in the ordinary day's time-table, fix up a drill or a shoot. Evening drills are, for study's sake, reduced to a minimum.

The battalion to which a college company is attached ought to receive an increased grant for such. An ordinary company must pay better, since training college students can rarely remain longer than three years with the company or the battalion. Nor do I think they should be encouraged to remain longer, but should be expected to join the corps of the district to which they have gone, and also to take a commission. No man should be more fitted to take command than the schoolmaster. Who can have the same influence with the lads who have left his school?

It would also tend to improve the social position of the teacher by his taking a prominent part in one of the recognised institutions of the country.

Cadet corps for boys after fourteen: Boys' Brigade.

Every boy over fourteen should belong to a cadet corps. The Boys' Brigade is a most excellent organisation, and has done infinite good; but I think it would be greatly strengthened if they were attached to the local volunteer organisations.

Rifle shooting: continuation classes: suggested attendance and conditions.

Shooting should be taught with the carbine or ordinary rifle. Every child after leaving school should be on a register for so many years. As long as the youth can show that he is attending evening classes, he should be exempt, if he wishes, from ordinary physical drill classes; but, if not, he should be bound to attend self-improvement classes, in the shape of physical and military drill. This would go far to solve the problem of the physical training of those who do all their athletics by proxy at the Saturday afternoon football match. On occasional visits to the football field I have often looked around on the mass of spectators and wondered if nothing interesting could be devised by which the whole crowd might get something beneficial in the way of physical training instead of leaving the exercise to be performed entirely by twenty-two or thirty specialists.

The trained specialists can be justified. They show that they have pluck and athletic training, and that they have been taught to obey, without demur, the judgment of the Referee—qualities which are bound to reflect for good on the spectators.

I think the sitting of this Commission is most timely and necessary.

Teachers new class required.

By helping in the physical development of the individual the country's strength is thereby increased. The task is a great and important one. If the physical training of the young above fourteen as well as the child at school is to be taken in hand, as it must, I think a new school of teachers for this subject is necessary—a class approaching, if possible, in ordinary education to the day school teacher. He could take in hand entirely the continuation school work and be used for supervision in the day school. The ordinary assistant in school, who has done his or her full day's work, should have a minimum of evening work.

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11,674. *By Sir Henry Craik.*—Have you any experience as to how the work you describe as having done as a pupil teacher in taking children out walks was an advantage?—I found them of intense interest to the children. I had never heard of such a thing being done before.

11,675. Did the headmaster approve of it?—Yes.

11,676. Do you know if it has been carried on since?—I do not know.

Physique of students.

11,677. What would you say of the advance or depreciation of the physique of those people who have come up to be trained for teachers during the fifteen or sixteen years you have been in your present position?—I do not think their physique has gone very much down, but I think that formerly the men seem to have been bigger.

Playground and gymnasium insufficient.

11,678. Of course the difficulty in carrying on your instruction is principally the insufficient playground and insufficient gymnasium accommodation?—Yes, we go into the King's Park for drill.

11,679. That is only possible in good weather?—Yes.

11,680. For any improvement in the training of the teachers in this way we have to look to private subscriptions to meet any expense that may be incurred?—Yes.

11,681. That would have to be done by some public authority?—Yes, where they might get the use of a gymnasium.

Costume.

11,682. *By Mr Shaw Stewart.*—You say that you think that every classroom should have its stock of gymnastic shoes for all the boys and girls in the class, as well as belts for the boys. Do you lay considerable importance on that?—Yes.

11,683. It is important as curing flat feet and other ailments of children?—Yes, and it enables them to enjoy their exercises properly. The braces of the boys and the tight-fitting dresses of the girls are great drawbacks.

Examination of students.

11,684. *By Mr Fergusson.*—Are your students examined in physical training before they leave you?—Yes.

11,685. Who examines them?—Formerly the examination was conducted by the Aberdeen Physical Training College. The Education Department now sends a representative: Captain Armytage was down in July.

11,686. He gave certificates?—We have not got them.

11,687. Did they all qualify?—We have not got our report yet.

11,688. I notice that you say that you get plenty of accommodation in the parks. We have been told that the School Board children cannot get accommodation in the parks. How do you manage it?—We have odd times now and again at which we can manage to go to the park.

11,689. But I understand that the children don't get in?—They get into the parks.

11,690. Not for playing games?—They do.

System: general principles with freedom laid down.

11,691. *By Mr M'Crae.*—You say that you don't consider that a uniform system of physical training is necessary. Do you mean that also with reference to the elementary schools?—Yes.

11,692. Don't you think it would be a good thing to have a uniform system applicable to the whole of the country, with perhaps liberty to make some variations?—That is what I mean by a comprehensive general programme, just as in other things, such as drawing and nature knowledge.

11,693. What system do you adopt; is it based on the Aldershot system or Cruden's?—It is a mixture of

the whole of them. I took from the Aldershot system what I thought was most useful. It seems to me that Cruden had the Aldershot book before him, and that Chesterton had Cruden's book before him.

11,694. You have really prepared a system of your own?—I cannot say that; I have just taken what is most suitable.

11,695. You adopt a different system for the females?—I have nothing to do with them.

11,696. Do you know whether female teachers get any drill? We heard of another training college where the female teachers got squad drill?—They get drill. I had the female students of the Episcopal College for some time and enjoyed the training very much, but I had not time to continue it.

11,697. You find the volunteer company to be a great success in your College?—Yes.

11,698. You speak about continuation classes, and you say that every child after leaving school should be on the register for so many years, and that so long as the youth can show that he is attending evening classes he should be exempt if he wishes from ordinary physical drill classes, but if not, he should be bound to attend classes for physical and military drill. How would you compel him to do so?—Have your compulsory officers as you have for children up to fourteen years of age.

11,699. You would have that applicable to youths up to seventeen or eighteen years of age?—It would be worth trying.

11,700. What if they were leaving the town?—Then send word to the next town. *Mr G. F. Macnee.* 18 Sept. '02.

11,701. Would they be punished?—I have not thought out the punishment yet.

11,702. Who would be punished, the parent or the delinquent?—The delinquent, I think.

11,703. How would you punish him?—I have not thought that out, but I am strong on having a register, and to keep hold of those boys until they are eighteen.

11,704. You were at Aldershot yourself?—Yes.

11,705. Do you think it necessary that the instructor should go to Aldershot occasionally to get his information brought up to date as regards drill?—I don't think that is necessary if you keep in touch with all that is going on.

11,706. *By the Chairman.*—You are very keen on this subject, but of course there are a number of teachers throughout the country who are not keen. Suppose you have a teacher who is distinctly bored with physical training, would it not be of great assistance to him to have some book to fall back on?—Yes, it would be of immense assistance. I think something should be sent out by the Department like what they have in drawing, a skeleton. Text-book necessary.

11,707. Another thing is that if a teacher is transferred from one school to another, and they have the same system in both, then he will be able to go ahead at once?—Yes, but if there was a change, they might enjoy the exercises of the previous school. Any system you have must have the same earlier exercises.

The witness withdrew.

Adjourned

TWENTY-FOURTH DAY.

Friday, 19th September 1902.

At the Museum of Science and Art, Edinburgh.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

The Hon. THOMAS COCHRANE, M.P.
Sir THOMAS GLEN COATS, Bart.
Sir HENRY CRAIK, K.C.B.
Mr M. H. SHAW STEWART, M.P.
Mr J. C. ALSTON.
Mr J. B. FERGUSSON.
Mr GEORGE M'CRAE, M.P.

Mr R. B. PEARSON, *Secretary.*

Major-General Sir IAN S. M. HAMILTON, K.C.B., D.S.O., examined. *Maj.-Gen. Sir Ian Hamilton, K.C.B., D.S.O.* 19 Sept. '02.

11,708. *By the Chairman.*—You have been kind enough to send a *précis* of some evidence that you wish to give, but I may say that if there is anything that you wish to add to this, or if you wish to supplement it in any way, the Commission will be very glad to hear you. Will you kindly read your statement?—I have some experience of the effects of a special sort of physical training upon a certain section of our population, namely, the effects of drill and military physical exercises, with and without arms, upon the weedy and undeveloped youth of our great cities.

When I was commandant at Hythe, it was my duty to inspect every regiment of cavalry and every battalion of infantry serving in the United Kingdom. On such occasions I always made a point of seeing the recruits. A certain proportion of these recruits are drawn from the *residuum* of our town populations. When they enlist they are often miserable looking youths. Their limbs and fingers are poor and thin; their features haggard and pinched. Once in the army they are forced to lead a regular life, and to drill and to perform physical exercises. Within four or five months a marvellous transformation takes place, whereby they develop into stout, bright-looking, rosy-cheeked young men.

This satisfactory result may be, in some measure, due to the regular hours and wholesome food, for, undoubtedly, the wholesome food is essential. Physical training is invaluable, but it depends for its full effect upon a full stomach. We recognise this in the army, where a cup of cocoa and a biscuit are insisted on as a preliminary to the soldiers' early morning drill. I have, however, asked many officers and N.C.O.'s to what they attribute the improvement in their recruits. The answer invariably is that the drill and exercises, with and without arms, are largely responsible for this physical regeneration, which affects so many thousands of the under-sized, dispirited, undeveloped hobbledehoys from cities, whom we have from time to time been forced to accept for the army.

I fear I cannot go so far as to say that the mischief caused by neglect of physical training in boyhood may

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be completely remedied by drill, etc., in adolescence. Although the army may intervene in time to transform a certain proportion of potential workhouse inmates into useful citizens, their constitutions have probably suffered irretrievable damage between the period of their leaving school and the period of their enlistment.

Soldiers: prematurely aged: due to lack of training, etc., in early life.

I can show the reasons for this conclusion by means of an example. You have a soldier servant; a re-engaged man about thirty years of age and looking rather older. You go away for a year or two, and on your return you find him a respectable person with grey hair. He has become what is called an old soldier, and his age is about thirty-three. He has prematurely aged. Many of those who are resuscitated by the means I have described seem to pay the penalty for earlier neglect by losing the best part of that flat table land of vigorous middle life which may last, under happier conditions, for twenty or even twenty-five years.

11,709. You put that down to the evil effect of their early training, and not to their over-exerting themselves by training in the army?—I have seen the greatest ingenuity in attempting to account for this phenomenon, and I have heard it particularly said that it was the night duties.

11,710. That would not affect a soldier servant?—No, not at all, of course, and I myself attribute it simply to the fact that they were half starved at one time in their lives and that they never recovered—I mean half starved not only as regards food, but as regards all development of the body.

I would enthusiastically welcome and approve of a system by which the physical aptitudes of our Scotch youth would receive careful attention, not only in the State-aided schools, but also for some considerable period after leaving school. I speak as a soldier as well as a Scotchman, and particularly from the point of view of national defence and the military tactics and requirements of the future. I hold that in future wars every private soldier may expect to have occasion to depend much more than formerly upon himself alone. He should therefore possess sufficient initiative and knowledge to enable him in the attack to advance against an invisible enemy without orders, and often without the example of an officer to encourage him. There will be no drums beating the charge, no waving colours or cheering swarm of comrades. Alone, as an individual, he will have to make his way step by step, foot by foot, using every possible means to conceal himself, until he reaches a point 80 or 100 yards from the enemy's line, which he will then apply himself to break with his bullets sent at the heads or loop-holes he can now at last distinguish. Hundreds, perhaps thousands, of his companions will be doing the same thing, but within a distance of 800 yards from the enemy they will all be working as individuals. If the private soldier does not wish to go on at the imminent risk of his life, there is no power on earth that can now compel him to do so in a day attack conducted over open country. I mean to say that physique will help him under such trying circumstances. The resolution and self-sacrifice which steel a man's soul to face death is as much a matter of physical as moral training.

Training: great need: soldiers in future must depend on themselves individually.

Physical and moral training.

I place them upon the same footing. I have seen moral energy unable to find expression owing to an impotent physique. I have seen a fine physique deserted by its moral energy in the hour of trial. If I may say so, it seems to me that the moral education of our young Scotchmen belongs to the mothers, the ministers, and to the existing type of schools. The physical side has hitherto not been sufficiently insisted upon, and that is why I so ardently wish to see physical training made compulsory, not only in the curriculum of the schools, but also as a continuation training for the further development of physical aptitudes. I very earnestly hope that such continuation training may be given with arms and under the direction of a qualified military instructor. The physical training in the schools might well consist, as at present, of ordinary physical exercises, but I trust the continuation training may be given a distinct military bias.

Compulsion desired in schools and continuation classes: physical exercises in former: semi-military training in latter.

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Reasons.

My reasons are: If our boys are taught to handle arms, use the bayonet, march, skirmish, shoot, etc., they will be a great addition to our military strength. Young Boers, between the ages of twelve and fifteen, were most dangerous, and have sent many a good man to his long account. In their native land, or mounted on ponies in any healthy country, boys of fifteen will make most excellent soldiers. They attach less value to their lives than older men, and are wonderfully enthusiastic as well as dashing, supple, and quick. I would feel very confident of obtaining creditable results if I were placed in command of a mounted infantry brigade composed of boys who had previously been well grounded in handling arms, in skirmishing and the attack, and whose bodies and limbs had been rendered robust by careful training. I am a Scotchman and a Presbyterian. I would not anticipate any opposition, from the religious point of view, to a military bias being given to the education of the young. On the contrary, I would expect much kind assistance.

System proposed: advantages preferable alternative conscriptio

Presbyterians are at least as anxious for the maintenance of our Empire as other denominations. It would only be necessary to convince our ministers that the adoption of a system of semi-military training for our boys and youth would tend to relegate all questions of conscription and barrack life further to the background than they are at present. The Church of Scotland will, if I mistake not, be quick to perceive that a physical continuation training with a military bias would afford many of the advantages and absolutely none of the disadvantages of conscription. There are no people who realise more clearly than the ministers of the Scotch church that our army is the one great popular organisation besides their own which continues to give a silent denial to the assumption that wealth is the supreme object of existence. They understand that, whatever the practice of individuals may be, the ideals of the army tend towards self-sacrifice and hardship, and thus form a counterpoise to those of the age which make so strongly for self-love and luxury. They are, in fact, thoroughly patriotic, and will prefer to recognise a moral obligation to train their people for the defence of the Empire rather than sit with folded hands awaiting that conscription which is the probable alternative.

Military training: system wo remove popular pr judices against the army.

I would not anticipate any objection from the young Scotch people. The games and physical exercises of their schools would have given them a turn for such things. In the military continuation drills and exercises there would be a serious purpose underlying their work, which must appeal very strongly to any Scotch boys. The parents might be doubtful at first, but they would almost immediately realise in the improved manners and bearing of their sons what are the advantages of a taste of military discipline. Meanwhile, the introduction of such a system would complete what the war in South Africa has begun, by removing the prejudice against a military career which still exists in the homes of so many of our Scotch people. By bringing the civil population into closer touch with the army, incalculable good would be done to the troops, and some good, I venture to think, to the country. At present our soldiers, and we, the officers, suffer, each in our own class, from being unduly exalted at one time and undeservedly neglected at another. Both attitudes are exaggerated, and more knowledge and real sympathy might effect some enduring and sensible compromise in this respect in the minds of the public. Until lately there was, it must be acknowledged, some ground for Scotch prejudice against the army, whether manifested by the sober merchant of Glasgow or Dundee or by the labourers and miners he employed. It was the aim of the army to turn its men into machines, and such men were men spoilt for most branches of civil life. In future, it will, I hope, be the object of the army to develop initiative and individuality of thought and action amongst its men, qualities which should tell just

as much in subsequent private life as they did in the ranks.

I think the length of time to be devoted to continuation exercises should be half an hour at a time, but three-quarters of an hour would be better. I foresee no real difficulty in introducing such a system. The press and the ministers will, we must hope, persuade the people to give the system a fair trial. The best line to take is that we Scotch mean to retain our advantage over the English in all educational matters. Instructors might be available from the volunteer permanent staff, or else be found in the persons of retired drill corporals or sergeants who live in the neighbourhood. Better still, the teachers might be sent to Aldershot and Hythe for a short time to qualify as instructors in drill and shooting. Fortunately, it will be most easy to arrange such matters in big cities where the need is most urgent for military exercises, and where there is, on the other hand, no space available for games. Officers commanding districts would take an interest in the movement, and might do much by inspections, etc., to encourage the boys and their instructors. I am sure, however, the Commission will find others better qualified than I am to advise upon any such points of detail.

I think the continuation classes should be compulsory. If not compulsory, it seems to me you will most certainly fail to secure the attendance of just that unruly and dissipated element which will of all others most benefit from discipline and drill. It would, indeed, be a cruel kindness to such boys and to their parents and their country to give them any option in the matter.

11,711. Then is there anything in Germany that you have seen that you wish to put before us? Having been there recently it would be very interesting?—Within a week or two of my seeing Sandhurst I saw the great cadet school at Potsdam.

11,712. Did you inspect the cadets at Sandhurst?—Yes, I first inspected them with Lord Roberts, and within three weeks I inspected the whole of the German cadets near Potsdam, and as regards the attention paid to their physical development, when I saw the Sandhurst cadets go through their gymnastic exercises, marching, etc., I thought they were rather good, but when I saw the young Germans, I saw that it was quite a different thing—that they were not in the same street and very much better. Whether it was the marching past, or the horizontal bars, or the parallel bars, or fighting with bayonet, it struck me that a great deal more attention had been bestowed upon the systematic development of their bodies. They were younger than ours; I should say they averaged about eighteen months to two years younger than ours. There were two or three officers with me who were connoisseurs in that sort of thing more or less, and they agreed that these boys were quite splendid, and not only did they do these physical exercises, but there were some exercises specially calculated to test their nerve. They went up on a platform, about fifteen or eighteen feet high, and on the edge of it they stood on their heads and then flung themselves backwards on to some soft earth underneath. It required considerable nerve to do that, and a German officer told me that this was carefully done for the purpose of training their nerves. They were led up to it from low heights, and then brought up to that height. It struck me altogether that in Germany an immense deal is done everywhere by the Kaiser and the Government to foster the national sentiment and to improve the national physique.

11,713. I presume it struck you in like manner that not enough attention is paid to physical training in this country?—Yes, exactly.

11,714. And probably, if the same care was bestowed, our boys would be as well as the Germans?—A great deal better. I am perhaps prejudiced, but our native qualities seem to me better. Perhaps comparisons are odious, but I think our men, as far as native aptitude goes, are the better men.

11,715. Then generally do you lay great stress on each man acting for himself in the future, and may I take it that you are highly in favour of individuality?—I am highly in favour of individuality.

11,716. Do you consider it necessary that it should be fostered?—I consider it quite necessary in the fighting of the future.

German training: individuality and corporate discipline combined.

11,717. And yet at the same time, when everyone is taught on the same lines and on a similar system, do you not think that individuality will be destroyed?—It will be an extremely difficult thing, of course, because you must have discipline for many reasons—absolute discipline and obedience—and yet you must have individuality. To quote the Germans again, I think they try very hard to reconcile the two qualities, although their men have not the native individuality that our people have. For instance, in rifle shooting one of their exercises is this: they send two private soldiers to skirmish up towards a target, concealing themselves as best they can, and firing alternately about every fifty or sixty yards in broken ground. One man watches the other, and makes an exact note of what he has done and how he has done it. He is left entirely to himself, and then when the exercises are over they appear before the captain, and one of them will say to him, 'So and so committed such and such 'a fault; he ought not to have exposed himself so 'much, and if he had gone ten yards further he would 'have had a better shot.' And similarly the other one reports against his comrade, and they have to exercise their minds as if they were almost officers for the moment. Even very young officers are carefully trained in many ways in Germany to teach them how to exercise individual resource. For instance, a captain goes with some twenty men with blank ammunition, takes up a position and conceals himself on the top of a hill, and the subaltern takes half a dozen men and begins to stalk him. The ground is such as to enable him to get within 100 yards without being seen. If he shows himself, the captain and his men fire with blank ammunition, and then afterwards he is told, 'You have 'committed a great fault; you have not been clever; 'you have shown yourself when you ought to have 'been able to get 300 yards further without doing so.' I quote that as an example. Although they are tremendous people for discipline, they try to make everyone think.

Open spaces should be provided.

11,718. Is it your opinion that if drill is practised either by those at school or those who have left school, it is very important that in addition to the actual ground for pure drill they should have some open space to work in?—Yes.

11,719. It is a very difficult thing to obtain at present in many places in Scotland, but you would emphasise that as a great desideratum?—Yes, I would indeed. You must have some open spaces. I take it that one advantage of this drill is that you don't need such large spaces as you need for dozens of games, such as cricket or football. If you had 100 boys, and were going to develop their physique, you could work with less space if you were drilling them and teaching them to march than you could if you were going to have nine games of cricket going on at the same time.

11,720. But you need more when you get to skirmish or individual drill?—In a big town that is a very great difficulty. I am very strongly in favour of open spaces being provided for that reason.

11,721. *By Sir Henry Craik.*—With regard to physical training, you have seen the training that goes on at the Duke of York School?—Yes, I have.

11,722. How would that compare with the training that you saw at Potsdam?—I should not think that they gave nearly the same amount of time to it that these cadets did.

11,723. It is very well done there?—It is excellently done.

11,724. They begin at an earlier age?—Yes.

Drill and games: former preferred.

11,725. You place more reliance on the training in school by drill and discipline than upon the effect of games?—I do, for several reasons. How can you examine what progress is being made if you give your physical development by means of games? I mean to

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say, that in every game of football and cricket you have skirters and shirkers who hang about and pretend that they have been playing, and they don't play at all, whereas if you have them in a row they have to do the exercises.

Training as part of education: must be systematic and regular.

11,726. Besides that, you think that to have full effect this physical training must be considered as a part of education, and be under the charge of those who are responsible for it?—I strongly think so.

11,727. That it should be connected closely with intellectual training?—I think that it acts and reacts on the teacher and pupil. I think that the teacher will gain greater power over his pupil in lessons by having exercised his power in making him go 'about 'turn' and 'shoulder arms.'

11,728. And, therefore, however good games may be, especially for schools of the higher class, before we can have the full effect of the physical training, it must be done under strict regulation and guidance, and as a part of a regular system?—That is entirely my view.

11,729. Then for those exercises that you have described, you would require more than any playground and really open spaces?—No, I don't think so. I think, for instance, that with regard to training for shooting, our great difficulty is the extraordinary clumsiness of the recruit, and the time he takes to get the proper positions. All such preliminary training can, however, be done on quite a small playground or yard, or even in a room.

Town children and country schools: vacation courses.

11,730. Do you not think that it would be a very good thing if we could carry out more generally the plan in England of taking the town children to the country for a vacation?—Yes.

11,731. Have you seen any of these camp schools?—No, but I have read of them.

11,732. But you think that it would be better to give the town boys a few weeks, camping them in the country schools?—That could be made a sort of reward for proficiency in learning their ordinary drill and exercises—that they would go out for a fortnight skirmishing, and so on, in the country. That would be splendid.

11,733. That would be considered a part of the regular school work, and instead of the schools being left useless for two months, they could be used?—That would be splendid.

Compulsion after fourteen strongly desired.

11,734. *By Sir Thomas Glen Coats.*—Do you advocate very strongly the compulsory training of young people after the ordinary school age of fourteen?—Yes.

11,735. Can you give any information as to any means of carrying out this compulsory attendance, seeing that many of the children would be beyond parental control, and apprentices, and lodging away from home?—I think I am hardly capable of guiding the Commission on that point. I think that I expressed the strong view that it would be most desirable to have it compulsory, but I know that this view comes into conflict with certain theories of political economy. These boys are earning something, and I should like simply to say that it would be desirable to have it compulsory.

11,736. The reason I ask is that I don't think there is any witness who has had any plan to suggest for compelling those boys to attend; if they don't come in, then naturally you would fine them or give them imprisonment or some method of doing it?—There is some penalty for non-attendance at school.

11,737. But this is beyond school, and beyond the control of the compulsory officer?—In our status of life boys are not beyond control until they are seventeen, at any rate.

Military training for boys up to eighteen: must be progressive course.

11,738. There is one other question; if those boys from fourteen to eighteen get military drill with arms, do you think there would not be some chance of their getting tired before they were old enough to join a volunteer corps or going into the army?—No, I don't think so. I presume that from fourteen to sixteen they would have a small rook rifle, a thing that they turn out for seven francs at Liège, and after that they would presumably get a carbine or cadet rifle, and there would be progress through the business that would keep up their interest in it.

11,739. You would give them training in shooting as well as drilling?—We have just now evolved a system of miniature ranges where you could teach a man to be a good shot practically without going to the rifle range. Formerly with the Snider and Martini-Henry, the kick and shock and smoke were so great, and the trajectory so high, that the only practice you could have was in the sun and air and wind and at long distances. Now our present rifle has no kick and no smoke, and it is simply a question of firing at 20 or 25 or 30 yards, at a proportionately reduced target, and with the one exception of the wind, you are learning really just as much as if you were firing at 1000 yards.

11,740. *By Mr Shaw Stewart.*—At what age do you think a lad is fit to drill with and use a full-sized rifle?—Certainly not till after sixteen, I should say.

11,741. In your evidence you say, 'I think the length 'of time to be devoted to continuation exercises should 'be half an hour a day, but three-quarters of an hour 'would be better'; that is after they have left school?—I was imagining that in the evening after they left school they would have half an hour or three-quarters for drill.

11,742. But you would not mean that for every day in the week; it would not be easy to get lads to attend continuation classes every day in the week?—I was thinking, then, perhaps purely as a soldier of what one would like, and not what was possible. I was thinking of two half hours' musketry training per week and one half hour of shooting, and the rest for drill.

11,743. Perhaps for the ordinary lad you would like to alter that to half an hour 'at a time.' There is this difficulty in a continuation class for all sorts of lads, supposing it was possible to bring them together: I don't suppose they would be got together for more than three times a week, and possibly only twice a week?—Well, I don't want to put in anything that is not possible, because that would weaken the whole thing. Then I shall insert the words 'At a time.'

11,744. Then there are two questions with regard to your general evidence. You don't desire to see all boys become soldiers—that is out of the question?—I think that would be a most regrettable thing.

11,745. The trend of your evidence is rather towards the military side?—Yes.

11,746. You rather wish them to be able to bear arms, if necessity arose?—Yes.

11,747. And you think physical training is as necessary for those who enter industrial life as for a soldier's life?—I should say that the battle of industrial life is as severe as any battle with arms.

11,748. And the preparation for that life is as important as that for the life of a soldier?—Absolutely.

11,749. *By Mr Alston.*—You spoke of the prejudice on the part of the public against the army; can you account for that prejudice in Scotland?—I endeavour to account for it in my evidence to some extent. It dates from very old days, when the prisons used to be emptied into the army. It is, as I say here, the fact that the training in the army, although good for a certain limited number of things, has not hitherto been such as to better qualify a man for civil life afterwards. I think that is the reason. I think instinctively they felt that when a man came back he was not very successful in getting employment, and so on.

11,750. Was it not very largely due to the quality of the army?—That is what I say—in the olden days when the jails were emptied into the army.

11,751. But that, of course, has not applied for many years, and yet the prejudice still exists?—It has existed in Scotland from the days of Culloden.

11,752. You remark upon the good that would be done by bringing the public more into contact with the army?—I think so.

11,753. You would require a soldier to be a very much better class of man than we have had?—I would try and make him so. But it is the soldier's own class; his father and mother and brother that look down upon him now. In the Highlands when he goes to be a soldier they are sorry, and they strike

him off to a certain extent. There is that feeling, I am afraid, or there has been till very lately.

11,754. You know that there is considerable difficulty in introducing military training in the schools and in continuation classes, on account of the prejudice of the parents against a military training?—Certainly.

11,755. There is still a strong antipathy to it?—Yes, but I think that will decrease.

11,756. As against these proposals?—Yes, I think that it will decrease.

11,757. Then you think that there will be sufficient attraction?—Of course genuine, conscientious objection might have to be respected. I don't think you would make a Quaker fire off a gun, but you might train him with the white flag, or something of that sort. I would not let him off doing his drill.

11,758. Do you think that there would be sufficient attraction to a boy of fourteen, or seventeen, or eighteen, without compulsion to attend a continuation class and take physical training and military drill?—I think with the best boys there would be, but I think with the very boys you want to get at there would not be. I would add that I think that probably more of these young rascals would come voluntarily than you think now, especially if you give them some little badge and so on. I do think that, but I would rather see compulsion.

11,759. You would rather see compulsion?—I would rather see compulsion.

11,760. Do you think the public would be prepared to stand compulsion?—It depends a good deal on the report of this Commission, perhaps. One will see how the public takes it, I suppose, by degrees from the Press.

11,761. *By Mr Fergusson.*—If you had a free hand, would you introduce conscription into this country in the fullest sense of the word?—No.

11,762. But you feel that something should be done, as the present state of matters is not satisfactory?—Yes.

11,763. And therefore you advocate this system which you have sketched out as something which will not be any great burden on anybody or be very irksome, and put conscription in its fullest sense in the background for ever?—That is so.

11,764. *By Mr M'Crae.*—I suppose, in your desire for physical training, you would have the twofold object—you would like to improve the physical development of the race apart from purposes of national defence?—Yes. I am trying to regard this question quite as much from the point of view of a citizen as of a soldier.

11,765. And also for national defence?—Yes.

11,766. Have you considered any alternative to compulsory training which might be an improvement on our present state of matters?—I suppose it is a very vexed question, but if you could not have compulsion, and if the boys would not come willingly, they might be remunerated.

11,767. I notice that you rather suggest that up to fourteen, or as long as the boys are attending the day schools, they should not have military drill?—This new model course of training adopted in England is, of course, military to a certain extent already; I mean to say that there is no need for any great change in the present system as long as the boys are attending the day schools.

11,768. You say that the physical training might still consist, as at present, of ordinary physical exercises; would you add drill to that?—I personally prefer a touch of drill all round, but I don't want to attach so much importance to that as to have a distinct military training.

11,769. But you think that it would be an advantage before fourteen that they should be taught squad drill in the schools?—Yes, I do.

11,770. As far as compulsion there is concerned, there is not the same difficulty, because there is compulsory attendance for mental subjects, and physical training might be added?—Yes.

11,771. The great difficulty is when we come to the point after they leave school, between fourteen and seventeen years of age?—Yes.

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11,772. Would you approve of a cadet corps being attached to every day school?—I would.

Cadet corps approved.

11,773. Then you think that it would be a good thing if a cadet corps was attached to every day school, and perhaps attendance might be continued at the continuation and evening classes?—Yes, the boys at the school would be too small to belong to a cadet company.

11,774. There is the Boys' Brigade, starting at about twelve years?—Yes.

11,775. To what age in these continuation classes do you think they should get organised physical training?—I have said here, in this paper, seventeen to eighteen, certainly.

National defence: compulsion: continuation classes: certificates of proficiency.

11,776. Then to go a step further, supposing it were necessary in the future to avoid conscription that every young man capable of bearing arms should put in a course of training such as our volunteers undergo just now, would it be feasible that a boy who had attended the continuation evening classes, and had a certificate that he had undergone physical training, might be exempted from undergoing a training similar to what is undergone by the volunteers. My point is, that up to seventeen, if he had a sufficient physical training, combined with drill, and in the event that I have forecast, everyone should have compulsorily to put in a certain number of drills for the purpose of national defence, the boys holding such certificates might be exempted?—I think so. That would come itself. They would come before an instructor, who would find that they knew their work.

11,777. And it would be an advantage from that standpoint?—I think that might be a very reasonable proposal to make.

11,778. Then we had the other day a witness who, while telling us that in certain parts of the Highlands they were very keen on volunteering, they had no desire to enter the army; do you think that such a course of training, while it might make them more anxious to join the volunteers, might give them a taste for the army?—Of course the Highlands are strong against the army at present in most parts of it, and I don't think anything can make them worse in that respect, and I think it might make them a great deal better.

11,779. But you think that by giving such a training they might be content with the soldiering that they get in the continuation classes and the volunteers, and that there would be no fear that that training might induce everybody to enlist?—Certainly not. I have no fear of that at all.

German cadets 14–18: Sandhurst cadets 19½.

11,780. With regard to the young Germans at the cadet school, what age would they be?—They are considerably younger than our boys. Ours are about nineteen and a half; that is the latest they can go, and they are from eighteen to twenty, but these boys at Potsdam ranged from about fourteen to about eighteen or nineteen.

11,781. So that they start much earlier than in this country?—Yes, certainly.

Recruits' training.

11,782. *By the Hon. Thomas Cochrane.*—You spoke of the advantage of physical training to the recruit; is there a distinct and marked advantage?—I have not the statistics, with me, but it is only a few weeks ago that an officer commanding one of our depôts sent me the statistics, and it would be very easy to get them and send them to the Commission; it is quite extraordinary.

Soldiers: premature ageing.

11,783. You spoke about the premature ageing of old soldiers; do you trace that to the amount of physical training that he has had as a young soldier?—No.

11,784. We had a witness here yesterday who rather brought that forward?—After all, a recruit only gets two hours a day for the first fortnight of what you might call physical drill, and the rest of the two or three hours is not of an exhausting nature at all.

11,785. You put in premature decay probably as due to the fact that he has been insufficiently nourished?—Yes, and the body not physically trained.

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Army: popular prejudice: improvements in barrack life, etc.

11,786. And not due to physical training?—No, certainly not.

11,787. I don't want to go over the prejuduce about the army, but do you think it can be traced to other causes than the fact that you have alluded to as to the inferior quality of material? Is there anything in the present treatment of the soldier that leads to the prejudice?—I don't think there is anything in the present treatment of the soldier that would lead to any prejudice, but I do think that there is a great deal of room still for improving and modernising barrack life, and I think that in the next year or two a great deal will be done in every way to bring things up to date.

11,788. That is the very point I had in my mind; there is a prejudice to the barrack life among the better soldiers, is there not?—Yes, I think a great deal will be done, but as regards opinions, there are a hundred reasons why they should not be passionately fond of the army. They don't make much money, for one thing, and there are many reasons.

11,789. Do you think it would be possible to do with less barrack life in the army?—All roll-calls are being done away with except one, and I think you will find that the men will be less tied to their barracks, but I think they must live in barracks.

11,790. It has been rather a fad of my own to give the men of good conduct in the army, who pass in all their drills, long periods to live in plain clothes and to enable them to go out into civil life for six months or so, and come back again to barracks at any time they are required without interfering with discipline, at the option of the commanding officer?—I think that is rather a large question to answer offhand, but you would never know where you were as regards your establishment if you gave a large number of men leave for long periods. As regards the permission to wear plain clothes on furlough, that has been done.

11,791. The other, I thought, might be in the discretion of commanding officers very largely to allow men to go back who could keep in touch with civilian life, and enable them to go out and pick up their old work again. Now a great number of men go to the barracks who are really useless. However, I don't want to pursue that. Then there is a good deal of this dislike in the army to the excessive number of fatigues?—We have also permission in the army to limit the number. It has been admitted that reserve men and old soldiers may be made use of to lessen those fatigues.

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Army reforms.

11,792. And that ought to tend to popularise the Army?—I think a great deal will be done.

11,793. There is also the number of guards?—Lord Roberts is very keen on that subject, and has already done much to reduce sentries.

11,794. And all those subjects rather lead the soldier to think that when he is in barracks he is treated like a child?—Yes.

11,795. There is also going to bed at a certain hour, and there is no individuality or initiative?—No, we want to improve matters. I can confidently assure the Commission that the present Commander-in-Chief is bent upon introducing reforms in this respect.

11,796. Do you think that for purposes of discipline better-educated men are restrained from going into the army?—Certainly not.

11,797. Do you think that these reforms would tend to improve the soldier morally and in every way?—Yes, but we must move slowly.

Cadet co

11,798. About the cadet corps, which has been brought before us by some of the witnesses, there is a difficulty in organising cadet corps that they have not been recognised by the War Office where there is no uniform provided?—Well, I have only been back at the War Office for a week or two since the South African War, and I am not aware what has been happening there, and I must be careful not to clash with any remarks of my superiors, but I think that a cap and a belt would please the boys and might be accepted as uniform.

11,799. We had several cases brought under our notice of masters and others being anxious to have a cadet corps to be attached to a school, and they felt that the parents would not go to the expense of uniform, and that they thought it was not necessary, and that the boys could do it with some simple uniform; they want something such as a cap and a belt?—Yes.

11,800. Something to identify them?—Yes.

11,801. There has been an idea given expression to, that in the army men are rather tending to machines?—Yes, formerly, and perhaps to some extent still, but I hope this tendency will not long prevail.

The witness withdrew.

Mr A. S. Reid, M.A., (Cantab.), F.G.S.

Mr Arthur S. Reid, M.A. (Cantab.), F.G.S., examined.

Mr A. Reid, M (Canta F.G.

11,802. *By the Chairman.*—You have your notes before you?—Yes.

11,803. State your school and university training, your former experience, and the time in your present position?—Educated at Sutton Valence School and St John's College, Cambridge. First Class in Natural Sciences' Tripos, 1879.

Two years at York, 2 years at Sutton Valence, 18 years at Glenalmond.

11,804. (*a*) What is the class of your school and scholars? (*b*) Give the numbers and ages of the pupils?—A Secondary School on the English Public School system. Sons of gentlemen.

140 boys, ages varying from 9 (in Junior School) to 19.

11,805. Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.*, football, cricket, hockey, etc.: (1) Are they organised and supervised by masters? (2) What is the size of the playing-field, and its distance from the school?

(*b*) Drill: how taught and by whom? Gymnastics: free or applied? Is there a gymnasium attached to the school?

(*c*) Athletics, *e.g.*, jumping, running, etc.

(*d*) School-runs, paper-chases, etc.

(*e*) Handicrafts.

(*f*) Voice training.

(*g*) Cadet corps, rifle-shooting.

(*h*) Swimming: (1) Is there a swimming-bath attached to the school?

(*i*) Fire brigade corps.

(*j*) First aid and ambulance.

Games.

(*a*) Regular games are Rugby football and cricket; golf and fives are organised, but not compulsory. Hockey is played when football is impossible from the state of the ground.

Organisat

(1) All games are organised as part of the school training, and are controlled by committees of masters and elder boys, who are responsible to the Warden of Glenalmond for the carrying out of the system. Masters take part in all games. A committee consists usually of one master and several boys: some committees are of boys only.

Playing fi

(2) Five cricket grounds and four football grounds are used, all within the school grounds, and easily accessible in a few minutes. The area of these fields, taken together, is estimated as from 22 to 24 acres.

Drill.

(*b*) Drill is taught as part of the volunteer corps training by a resident sergeant instructor (late Black Watch) and the officers of the corps.

Gymnasit

There is a large gymnasium in the school fitted with the usual appliances (bars, ropes, ladders, rings, dumb-bells, etc.).

Gymnastics and physical drill are taught by a resident sergeant instructor (first-class Aldershot certificate for gymnastics and fencing) and competent masters.

(*e*) 'Athletic sports' (running, jumping, hurdle-racing, putting weight, throwing hammer and cricket ball, steeple-chases across country, etc.) are held each year at the end of March, and are trained for specially during that month.

(*d*) In the winter terms there are compulsory short school runs on three days per week; in bad weather, when football is impossible, longer runs, hockey and paper-chases are substituted for that game.

(*e*) Carpentry is taught by the resident carpenter, and mechanical engineering by the resident mechanical and electrical engineer: the former to the modern side and middle school as part of their training, the latter to those boys whose parents desire it as a preparation for their sons' future career.

(*f*) There is a school choir instructed and trained by a resident choir and music master.

(*g*) The cadet corps (4th V.B.R.H.) was started in 1876. The numbers at present are 101, so that, with a few exceptions, all boys who are old enough and big enough are members of the corps. The captain and lieutenant are masters, the 2nd lieutenant and N.C.O.'s are elder boys and some masters; there are also masters in the ranks. There is a resident sergeant instructor (late Black Watch). Members of the corps who are old enough are enrolled. The corps is regularly inspected and reported upon by the adjutant, and joins, when possible, in battalion drill and field days.

All members of the corps who are competent to handle the rifle can get instruction and practice in Morris-tube shooting during the winter terms. In March and the summer term (May to July inclusive) the best shots are trained on the range at 200 and 500 yards, and of these the best eight are sent to compete at Bisley for the Ashburton Shield and Spencer Cup (which Glenalmond has won thrice) against other public schools. Glenalmond has been represented at Wimbledon and Bisley since 1877. Matches are shot during summer term against about twenty other schools and some regular and volunteer teams.

(*h*) There is no swimming-bath attached to the school, but three separate portions of the river, of graduated depths, are used for bathing in summer; the necessary stages and diving-boards are fitted up, and boys are 'passed' from one bathing place to another according to their ascertained proficiency in swimming, diving, and floating, beginning with water within the depth of the smallest boy.

(*i*) and (*j*) Both fire-brigade drill and ambulance work (with lectures from the medical officer) were at one time part of the school training; lately they have been in abeyance, but I have the Warden's authority to state that both will shortly be again included in the curriculum.

(*k*) Boxing and fencing should be added to the above list as among the organised forms of physical education at Glenalmond.

11,806. State specifically the time allotted to these or any of them *per diem* and per week?—*Cricket.*—On three days per week 2½ hours, on two days per week about 3¼ hours. On Saturdays matches for first and second XI.'s, and occasional matches on other days. Every boy gets one day per week (exclusive of Saturday) 'off' from cricket.

Football.—Three separate hours' practice or matches per week, as well as shorter practices in such special matters as 'passing,' 'kicking,' 'scrum-work,' etc. Boys who are physically unfit for football or cricket go organised runs or walks.

Gymnastics.—Each boy gets about 1¼ hours per week, and there are also 'voluntary' classes for those who wish for more. The best gymnasts form an VIII., and the best pair of these compete from time to time with the other schools at Aldershot. There are special classes for weakly boys.

Athletic Sports.—The training for these takes the place of football in March, and is organised and supervised by a committee of boys and masters.

Runs.—In winter terms a short run of 2 to 3 miles on three days per week (non-football days). Longer runs and paper-chases *vice* football, when the weather will not allow of that game being played.

Boxing and *fencing.*—Each two hours per week in winter terms for those who join the classes.

Drill.—One full dress parade of one hour per week; recruit drills three half-hours per week.

Shooting.—Winter terms: Morris-tube, three periods of ¾ hour per week. Summer-term: four periods of 2 hours per week (including matches), and occasional longer periods when matches are shot at Barry, Crieff, Montrose, or other distant ranges.

Golf.—Any boy who has passed the test for the links may play golf when not required for the compulsory games or runs.

Fives.—There are three fives-courts under control of the keeper of fives (a senior boy). The use of them is obtained by putting down names in the morning.

All games are, as explained above, controlled by committees who make rules and regulations. These committees are controlled by a central 'Games Committee,' which is finally responsible to the Warden. Cricket, range-shooting, and corps-drill belong to summer term. Football, gymnastics, athletic sports, runs, boxing, fencing, golf, Morris-tube shooting, and corps-drill belong to the winter terms.

11,807. Are any of these taken in ordinary school hours?—With the exception of section (*e*), all these are taken 'out of school.'

11,808. What, in your opinion, are the respective merits and relative values of the various forms of physical training?—This question opens out a large field, but briefly it may be said that whereas gymnastics and physical drill make chiefly for muscular and bodily development, the great value of organised games is, in addition to bodily development, the unconscious training in habits of unselfishness, self-reliance, unquestioning obedience to captains or umpires, self-control, generous appreciation of others, consideration for others' feelings—in fact, many of the qualities that go to the making of the 'gentleman.'

Games and drill, etc.: merits.

11,809. How far are these opportunities taken advantage of?—With us there does not arise the question of 'taking advantage of opportunities.' The games are part of the school system and life; masters take part in them, not as invigilators or supervisors, but, like the boys themselves, in friendly rivalry, their greater experience or ability sometimes aiding the boy by advice, sometimes by example, while, at the same time, they obey their boy-captain just as they have done all their life at school and university. These relations react on the mental side of the school training, since qualities that are hidden in the classroom come out on the playing-fields or range, and man and boy acquire mutual respect for one another.

Games part of school system.

11,810. What, in your opinion, are the results of such physical training?—The results are invaluable, in that physical development keeps pace with mental development, which is necessary for the properly 'educated' man. Qualities and habits which cannot be brought out or inculcated in the class-room—which cannot be *taught*—are, almost unconsciously, acquired and developed, while the master ceases to be only (from the boy's point of view) a teaching-machine or task-master, and, therefore, finds his usefulness as a teacher enhanced.

Results.

11,811. What are the effects, moral, physical, and intellectual?—This is again a wide question, but, to take a single example under each heading, one may say (1) Games and physical exercise are the natural prophylactic against the moral evil that may get hold of, and ruin bodily and mentally, the growing boy whose sex-sense is asserting itself. The healthy, clean-blooded, vigorous boy, keen to excel in his games, is mostly clean-minded and clean-souled, and I have known the evil in question combated by an appeal to the need of efficiency in games, when other appeals have failed.

Effects—moral, physical and intellectual.

(2) A comparison between a young man who has been educated at a school where games are an integral part of the school training, followed by an English university where games, though not compulsory, are

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almost equally a part of the training, and a young man who has not had these opportunities, will, I think, answer this question.

(3) Every schoolmaster finds, I think, that for his own and his pupils' intellects to be at their brightest and in their most receptive condition, a due proportion of physical exercise and games is both desirable and necessary.

Uniform system: not desirable in secondary schools.

11,812. Is a uniform system of physical training in schools desirable or necessary?—Provided the uniform system does not destroy individuality, it may be desirable though not necessary. A system that might be desirable for a school in a town would not necessarily be desirable for a school, like Glenalmond, among the hills, the moors, and the burns. The main outline might be uniform; the details should be left to the circumstance of situation. Uniformity of physical training is probably more necessary in the state-aided schools, especially at first, when a system has to be created.

Improvement unnecessary.

11,813. How, in your opinion, can the present system be improved and developed?—If 'the present 'system' means that adopted by Glenalmond and the English public schools, though, no doubt, it cannot be called perfect, I doubt if much improvement is needed unless it be in details. The main principle of making physical education part of the school training, and having organised games a part of the school system, seems to me absolutely sound, and Continental nations appear to be awakening to the fact.

Mind and body.

11,814. What is the relation between mental study and physical training?—The two should go hand in hand; the one fulfils the other. '*Mens sana in 'corpore sano*' is a trite, but none the less true, motto for guidance. If the balance between the two is not justly held, we have the Scylla of the 'brainless 'athlete' on the one side and the Charybdis of the 'attenuated book-worm' on the other to avoid, or, if we allow games and physical exercises to get the upper hand, we may lay ourselves open to be reproached as producing only 'flannelled fools and 'muddied oafs.'

Time: proportion.

11,815. What is a just proportion of time to be devoted to physical training in relation to study?—If 'physical training' includes all games and outdoor exercise, whether organised or not, I should say about one to two.

Daily.

11,816. Is physical training most advantageous if carried out daily in connection with school work?—Certainly; the brain gymnastic and the bodily gymnastic should alternate daily, and be made an integral part of the school life. So we get the 'public school spirit' which has turned out the type of ruling Briton who makes his way all over the world.

Outdoor and indoor training.

11,817. What are the respective merits of outdoor and indoor training?—Valuable training in co-ordination of hand and eye, and in development of powers of observation, can be obtained indoors as well as the muscular development from gymnastic work, but outdoor games and exercise are immeasurably superior in bringing about true and full development. Moreover, there is the education of the æsthetic sense to be thought of, wherein the hill, the moor and the burn, the bird, the beast and the flower, especially in a school situated as Glenalmond is, must needs play their part.

Military training: necessary.

11,818. Should some form of military drill or training form part of the ordinary curriculum of every school?—Yes, certainly; if not compulsory the opportunity should be there; military drill and drill with D.P. carbines when the service rifle is not obtainable and range-shooting is impossible; especially so in the 'State-'aided' schools, which would thus become, more than before, feeders for volunteer corps and the regulars, apart from the excellent disciplinary effects of such training.

System.

11,819. What system of physical training is, in your opinion, the best?—I have not sufficient practical knowledge of *systems* of physical training to answer this question, but I believe that what is generally known as the 'English Public School' system, followed by the training of the English (resident) university, produces the best average man at present.

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11,820. As distinct from physical training, what physical education is given in your school?—The Modern side and Middle school are taught science (physics, chemistry, geology, etc., etc.): the development of powers of observation and the co-ordination of hand and eye, orderliness of method and nicety of manipulation being specially looked after in practical chemistry, field geology, and practical surveying.

Physical education

11,821. What are the results of your experience regarding physical training, games, etc.?—This seems to be covered by answers already given.

11,822. Are they at present sufficiently organised and supervised?—At Glenalmond the organisation is, as far as I can judge, sufficient. Supervision, if it exists at all, is done by the boys themselves—captains of games, etc. But when the *esprit de corps* demands that each boy shall 'play up and play the game' for the honour of his school, little supervision is necessary.

Organisat

11,823. Are the teachers themselves duly qualified and instructed?—Yes, certainly.

Instructo

11,824. Are the pupils examined by a medical man?—Each boy brings to school with him a medical report showing what illnesses he has had, what bodily imperfections, if any, he possesses, and what weaknesses he is specially liable to (*e.g.* asthma, glandular swellings, etc., etc). On reaching school he is thoroughly examined by the resident medical officer, and his limitations made note of: then a programme is ma e for him as to what forms of physical exercise and what games he may engage in, whether he may take cold shower baths, etc., etc. This is communicated to the tutor specially responsible for interesting himself in the boy's life at school (each boy has such a tutor) and the 'Games' Authorities arrange his physical exercise programme in accordance with the medical report and suggestions.

Medical examinat

11,825. What kind of medical examination is made, and how often?—The examination is complete and thorough at the boy's entry; it is repeated as often as the medical officer considers it necessary.

11,826. Is a school register kept, showing the height, weight, chest girth, spirometry, biceps girth and general physical development of the pupils?—Height and weight have been registered for several years, but no register has been kept of the other items mentioned. I have, however, the Warden's authority for stating that, in future, a register of the kind intimated will be kept at Glenalmond.

School register.

11,827. If so, how often are these measurements taken, and by whom?—Hitherto, at beginning and end of term, by the Sergeant Instructor.

11,828. What remedies or suggestions have you to propose regarding the last part of the terms of reference, viz., How the existing opportunities for physical training may be increased by continuation classes and otherwise, so as to develop in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus to contribute towards the sources of national strength?—To this question, from my inexperience, I had no answer, but I have referred it to my headmaster, who has given me the following among other means:—'By continued military drill of an extended nature so as to co-ordinate with the elementary drill which should be given in national schools by gymnasia, etc. At present, voluntary Boys' Brigades and cadet corps, started and maintained by private benevolence, are the only agencies to cope with this problem. If it is to be met properly, so that the national life is not imperilled by a generation of weaklings, the State must step in and organise.'

After fourteen: milit drill organ by the Sta

11,829. *By Sir Henry Craik.*—You have been at Glenalmond for eighteen years?—Yes.

11,830. At that school you have drill as well as games?—Yes, cadet corps drills.

11,831. Your cadet corps is thoroughly organised and in connection with the 4th Battalion of the Royal Highlanders?—Yes.

11,832. Will you tell us whether you find the

Games drill, etc.

physical training a great supplement to the games; you don't think that the school would do with games alone?—No, I think not. I think there should be gymnasium work as well.

11,833. Whether do most of your boys take part in the games or in the drill?—All boys that are physically competent have to take part in the games. They are part of the school system.

11,834. Without medical reasons they must take part in them?—Yes, provided that the doctor passes them, they must play in all games that they can play.

11,835. And the cadet corps is only voluntary?—Yes, but every boy is advised to join it for his own good, and, as a matter of fact, nearly all those who are tall enough and up to the standard do join it.

11,836. You have about 100 out of a total attendance of 140?—Yes, and that allows for the small boys in the Junior school, who are not big enough.

11,837. You have specially given attention to shooting?—Yes.

11,838. Do you find the Morris-tube satisfactory?—Personally I don't think it does much more than teach position drill really, because of the difference of the recoil, the difference in the weight of the rifle, and the absence of practice in judging light and windage. We find that boys who are good at Morris-tube are not better at the range; just the same as a game shot is not necessarily good at the range.

11,839. But in many town schools better than nothing?—Yes.

11,840. You have dropped the fire brigade and ambulance?—Yes, but that is to come on again.

11,841. Did you find them useful?—Yes, decidedly.

11,842. How much time is given to the drill?—There is a full-dress parade once a week, and recruit drills three half hours during the week; that is the amount of the cadet drill. Last term we had to learn the new drill, and a great deal more time was given to it.

11,843. On the whole, how much is it every week?—One hour for certain boys and three half hours for the beginners and recruits.

11,844. About one hour and a half over all?—One hour for all.

11,845. How much time is compulsorily given to all games?—Cricket, three days a week two hours and a half, and two days a week three and a quarter. Then, of course, on Saturday there are usually matches. For football there are three separate hours' practice per week, and there are half-hour practices in such special matters as drop-kicking, passing, scrums, and so on. There are also the compulsory runs.

11,846. Altogether with games, shooting, and drill, you assign about twenty hours a week?—It would be different in different terms.

11,847. But something on an average of about twenty hours?—I have not added it up.

11,848. You don't think that is too much?—I don't think so, considering that they are organised games and part of the school training. I think it would be too much if they were games made by boys on their own account.

11,849. But in a school where you draw from the best social class, and where you look carefully to the all-round training of your boys, you divide the physical and mental training into something like equal proportions?—I think it comes to very nearly that sometimes, though one or two is the more general proportion.

11,850. And you think that is the right proportion?—I think so.

11,851. Do you think the proportion that is given in the great mass of State-aided schools is miserably small?—Yes, but I would not advise that for all schools.

11,852. Why not?—I don't think they could afford the time.

11,853. Why can they not just as well as your boys?—There are a great many of our boys who have not to struggle for their livings. Their careers are provided for them before they come to school.

11,854. But still the great bulk of the boys who go to public schools have to earn their living?—Yes, more or less, but many are more or less certain of a competency.

11,855. You are not educating them to be idle?—No, certainly not.

11,856. In order to prepare them for an industrious life, you give them that physical training?—Yes.

11,857. And you think that that is about the proportion that prevails throughout the higher-class public schools in England and Scotland?—Yes, I think it is about one to two, counting all opportunities for games.

11,858. You have described the results of physical training, and you also speak of the question of the uniform system of physical training. You think that a certain amount of uniformity is necessary?—I don't think it is quite necessary; I think it is rather desirable than necessary.

11,859. And will be all the more necessary in State-aided schools?—Yes, I think so.

11,860. You are asked, 'In your opinion can the 'present system be improved and developed,' and you say in answer, 'If "the present system" means that 'adopted by Glenalmond and the English public 'schools, though, no doubt, it cannot be called perfect, 'I doubt if much improvement is needed unless it be 'in details. The main principle of making physical 'education part of the school training, and having 'organised games as part of the school system, seems 'to me absolutely sound, and continental nations 'appear to be awakening to the fact.' You don't think that, so far as you know, it has sufficiently prevailed in our ordinary State-aided schools?—No, I don't think so.

11,861. The largest proportion of time to be devoted to physical training is about one to two hours, but it is in most public schools calculated at much more than that?—Yes.

11,862. Perhaps about one-third?—I have not actually made the calculation really, and I could not answer offhand.

11,863. You think it is almost a necessary part of satisfactory physical training that the poorer class in towns should see something of the country?—Yes, and should be taught in their schools to refrain from wantonly hurting animals and flowers alike. My point is that a plant is a useful living being, and that they ought to respect it and stop the tearing up of flowers and ferns. The first idea of the town people seems to be to pull up flowers and break branches off trees, and they would not do that if they were properly taught to refrain from injuring these creatures, and to respect their value and use as antidotes to the animals' effect on the air, irrespective of their beauty.

11,864. How are your teachers qualified?—Well, the instructor of gymnastics and drill and so on has the qualifications of being an army man, and holding certificates for gymnastics and fencing and shooting and so on from the army.

11,865. And he takes the physical training?—Yes.

11,866. But then the officers of your volunteer corps are masters?—Yes. The officer commanding goes to the School of Instruction, Victoria Barracks, to be trained and obtain his captain's certificate.

11,867. It is the duty of the ordinary staff of the school to take part in the games?—It is part of the system that they should be with the boys in their games and play with them, vieing with them, and I don't see why State-aided schools should not do the same thing.

11,868. In your school you have a very strict system of medical inspection and examination?—Yes. No boy may engage in any game or even take a cold bath till the medical officer at the school has examined him and passed him on to his Tutor or special master, who is responsible for his life at school. Each of us has a certain number of boys, and we are responsible for them, and we are in correspondence with their parents, and we deal entirely with that boy. If he is punished at all he is punished by his Tutor or the headmaster; there is no indiscriminate punishment.

11,869. Does the medical officer see the physical training himself?—Yes, and he plays in the games and so on.

Uniform system desirable.

Town and country.

Teachers' qualifications

Teachers and games.

Medical examination

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11,870. Then as to your suggestions you say, 'By 'continued military drill of an extended nature, so as 'to co-ordinate with the elementary drill, which should 'be given in national schools by gymnasia, etc. At 'present, voluntary Boys' Brigades and cadet corps, 'started and maintained by private benevolence, are 'the only agencies to cope with this problem. If it is 'to be met properly, so that the national life is not 'imperilled by a generation of weaklings, the State 'must step in and organise.' Will you explain a little more what you mean by that?—That, as you see, is not my own answer, because I did not consider my knowledge of State-aided schools was sufficient.

11,871. You speak for your headmaster?—It was Mr Hyslop (our new headmaster) who gave me that part in inverted commas.

11,872. It is intended that there should be some sort of extended drill over a large space?—If possible, I think. There was another method of physical training that we used at Glenalmond at one time which I think might be adopted in State-aided schools. We called it by the word 'Levy,' but it really consisted of road-making and putting up fences, and putting dams across a river or repairing a bridge—any kind of outdoor work. I have heard a great many boys, especially those who have gone to the Colonies, say that they were very thankful for that elementary training.

11,873. But you dropped it?—Yes, it dropped by force of circumstances, but I believe it will be reinstated.

11,874. What was the technical word?—It was our word 'Levy.' It was road-making, or any sort of work of that kind.

11,875. There are some schools in England which carry that on?—Yes. It does not cost much—a certain number of barrows, spades, pickaxes, etc.

Free time: allowance.

11,876. *By Sir Thomas Glen Coats.*—Is most of the time not taken up by the regular work of the school devoted to physical training or organised games—is there much time for the boys being left entirely to themselves?—Yes.

11,877. Private reading or natural science?—All the lists I have given you only apply to sections at a time. When one set of boys are playing these games there is another set who are off, and they have time to go and fish, photograph, roam on the moors, etc.

11,878. They have a time for themselves quite free from the supervision of the masters?—Yes, every day. In winter evenings, too, there is a 'recreation' hour after 'preparation,' in which boys read, write, play indoor games, hold committee and club meetings, etc. The summer Saturday, too, gives eight or nine hours at a stretch for country walks, cycling, etc., and every day there are free times for everyone, free from school work or compulsory games.

11,879. In our ordinary Board Schools they could not give anything like that time to physical training and drill?—No, I don't think so, but I think they might give more than they do. I speak with very little knowledge of these schools, but from what I have seen, I think they might give more.

11,880. Do you think that in the regular school hours more time might be given over to it?—Yes, I think you will get rid of a good deal of hooliganism if you will teach boxing and fencing, for it seems that they must fight. The more you come down the scale the more they appear to want to fight, and if you taught them to fight properly, I don't think they would fight wrongly as they do at present.

11,881. *By the Hon. Thomas Cochrane.*—You have a very wide curriculum of physical training to cover almost every subject?—Yes, we take all that we can. A good many of these things are voluntary.

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11,882. Some are compulsory?—Yes, cricket, football, gymnastics, and running are compulsory.

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11,883. Do you find that it is at all too much for any of your boys?—The moment it is, it is stopped with him. A boy would complain to his Tutor or the doctor if overtaxed, and have things altered for him.

Compulsor exercises.

11,884. You have a very careful medical inspection?—Yes. Having a resident doctor for 140 boys, he can look after them well.

Tutors.

11,885. Then there is the system of Tutors; in your Glenalmond School he appears to be more than an ordinary tutor?—Yes.

11,886. A guide, philosopher, and friend?—Yes, that is exactly what the Tutor aims to be. He tries to interest himself in the boy's life, inclinations, difficulties, and troubles, and help him by advice and otherwise.

11,887. How many are given to each?—The greatest number is twenty-five, the least about twelve, and it is the Tutor's business to specially look after these boys and take any complaint from other masters. There is no such thing as a boy being punished, in hot blood, by another master; the Tutor is left to deal with the boy, after proper investigation, or report to the headmaster.

11,888. And he would be able to judge whether the boy is able to do the physical training?—Yes, he generally passes him on to the doctor.

11,889. Do the parents object to the physical training?—I have never known a case. They may say that their boy is not strong enough to play cricket or football, and that he might get hurt, but, as a rule, the boy, unless physically unfit, bears down the parent after a time when he sees what other boys are doing in games.

11,890. He brings his influence to bear at home?—Yes.

School register: importanc

11,891. In future you are going to have a register kept of the physical development of the boys?—Yes, an anthropometric register, I believe.

11,892. That will be of great utility and interest?—Yes.

11,893. I presume it will be carried out by some skilled person?—I suppose it will. I know nothing about details. I presume that the doctor will keep the register and make the measurements, assisted by the Sergeant Instructor.

11,894. You will consider the matter of having it carried out by some properly-qualified person?—Yes. I will put it before my headmaster.

11,895. It is so easy to be a little deceived taking these measurements?—Yes.

11,896. I think the Commission rather place importance on this statistical information in future?—Yes.

11,897. I feel myself that it is of very great importance?—Yes.

11,898. *By the Chairman.*—I don't want to question you, but you put it on record that these remarks and your evidence generally which you have given us have been given with the full concurrence of your new headmaster?—Yes.

11,899. And although you are in a transition state between one master and another, this has been revised by the present and new master?—Yes, so far as my written evidence goes; he asked me to write exactly in my own words what I thought, and then asked me to put it before him, and before it was sent he made a few additions and wrote that answer (11,828) at the end. Everything written has passed before his eyes, and has received his sanction as to matters of fact, but matters of opinion are, of course, not binding on him.

The witness withdrew.

Mr A. Strachan.

Mr Andrew Strachan, examined.

Mr A. Strach

Half-tim

11,900. *By the Chairman.*—I shall trouble you to read your notes.—

I am headmaster of Dens Works School, Dundee, and have occupied that position for twenty-eight years.

The school is the 'Half-Time' school in connection with Dens Works, belonging to Messrs Baxter Brothers and Co. (Limited), and is situated in Crescent Street, in close proximity to the works.

The number of pupils on the roll at the end of the

school year (September 30, 1901) was 386, and the average attendance for the year was 187·9—that is, the average number present each day was 375·8.

The pupils *now* are from twelve to fourteen years of age.

A few 'All-day' pupils are under twelve.

The pupils are children of working-class parents, the fathers being skilled tradesmen, or labourers, seamen, etc. A few are fatherless.

They appear to be very well fed, and their clothing at school and work is, as a rule, neat, clean, and comfortable, suitable to their circumstances. The wages they themselves earn materially contribute to these results.

Most of them reside in the neighbourhood of the works and school.

Military drill and physical exercises have been given to the boys of this school since 1880. The late Mr Peter Carmichael (of the firm of Baxter Brothers and Co.), who took very great interest in the children, and frequently visited the school, was the first to suggest that these exercises should form part of the school work. He believed that as a result of these exercises the boys would show a decided improvement in their appearance, and greater smartness; and I think his expectation has been realised.

Sergeant-Major Tait, drill instructor to the First Forfarshire Rifle Volunteers, was engaged, and he has since continued on the school staff as our drill instructor, and we have found him in every way competent. He attends every Friday (weather permitting) from 10 to 11.30 for the forenoon school, and from 12.30 to 2 for the afternoon school. The boys of each division are drilled in two sections—an advanced and an elementary—each section receiving forty-five minutes. The drill includes all the turnings, marching and formations; the physical exercises are the usual 'extension motions' and exercises for 'bending and stretching the body,' given without apparatus.

The boys take great pleasure in their drill and exercises, and, as a rule, strive to excel in them. The smartest boys are made guides and markers.

The playground has a southern exposure, is well sheltered by the school and surrounding buildings, and shaded with trees. In 1883 it was greatly improved, and rendered more suitable for drill, by being made more level, and paved partly with flagstones and partly with masons' chips.

There are no continuation classes in connection with this school.

The boys from Dens Works School have the same careers open to them as boys from the Board Schools. The fact that they have been 'half-timers' does not in any way affect their prospects. They are as readily taken as apprentices as other boys. The way to respectability and usefulness is not in any degree barred to anyone because he has been a half-timer.

Former pupils from this school are to be found in all trades; many occupy very good positions, and some have businesses of their own and are employers of labour.

Many have become mechanics, joiners, plumbers, railway servants, shopkeepers, and as engineers in steamships they are to be found in all parts of the world.

Some are clerks, some mill-overseers, foremen in various trades, commercial travellers, ship captains and mates.

One is a certificated sanitary officer. One, now dead, was Chief Sanitary Officer in Durban, one is manager of a large wholesale business in the city; one is manager to a spinning company; one is manager of a foundry; one is sub-editor of a popular newspaper; and one is a certificated schoolmaster.

Many have entered the army and navy. Some of these are able seamen; one is an artificer in the navy; one a petty officer in a first-class battleship. I know of several who have joined the Black Watch; one who is in the Scots Greys; and one rose to be sergeant-major in a crack cavalry regiment.

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I am sure that if former pupils had known that I was to be questioned regarding their present positions, I would have received shoals of letters to confirm my statement that the period they spent in our half-time school has not told against their success in life, but, in many cases, has been a furtherance to it.

I am often told by former pupils that they do not regret the time they spent as half-timers.

A great many children, however, pass through half-time schools for whose education the half-time system cannot be held responsible. I refer to those children who at the age of twelve or thirteen have just managed to pass the 'third standard' in the board schools, and many of whom are very deficient even in the work of that standard.

Health.

The health of the half-timers is exceedingly good. Cases of absence on account of illness are rare. In the higher classes especially, the pupils (who, as a rule, have been longest at the school) have every appearance of good health, and are on the whole well developed children, comparing not unfavourably with children in ordinary day schools.

The school hours are not too long to weary the pupils; the work in which they are engaged is not so hard as to fatigue them, and the evenings are entirely at their disposal, for no home lessons are given.

The late Dr J. W. Miller, who was one of the certifying surgeons for Dundee, in a letter to Sir John Leng, defending the half-time system, written on 30th March 1895, makes the following statements:—'As to 'the physical health of half-timers there is no evidence 'whatever that it is injured by their work. The 'evidence is all the other way.

'Does the agitation against the half-time system not 'arise in great part from a mistaken impression, a 'false picture formed in the mind as to what these 'young workers are like? This is natural enough on 'the part of those who have not practical acquaintance 'with the matter. They are apt to take up the idea 'that these children are sweated for the benefit of 'employers, oppressed, over-driven, spiritless, and 'sickly. It is not so. I have frequent occasion to 'be in the flats, and have taken notice of the half-'timers at their work, and have been struck with the 'appearance they presented of happy activity, and of 'having pleasure in their employment. Indeed, these 'children exhibit just the same amount of vivacity 'and sportiveness as other children. Symptoms of 'dulness or depression are conspicuously absent.'

Medical examination.

The children when they are first employed are examined and passed by the certifying surgeon, but they are not examined periodically.

Physical exercises and military drill advocated in all schools.

Physical exercises ought to form part of the ordinary work of every school, and the boys of the senior division ought, besides, to get military drill, and this section of the school, I think, should receive this instruction from a man who has had military training. There is no doubt that lads would be greatly benefited if that training were continued for some years after they had left school.

Not compulsory after fourteen.

But, judging from the very partial success of the Compulsory Clause of the Education Act—as shown by the large number of truants—I do not think that the authorities should make physical training and drill compulsory after school age was passed.

The gymnasia might be made so attractive that the majority of the lads would be glad to attend; but there are in every community some ill-conditioned lads whose chief pleasure is to resist authority, and be as troublesome as possible; and that class — if the attractiveness of the gymnasia did not secure their attendance—would at least be denied the satisfaction of having successfully defied the authorities.

11,901. You have handed round some photographs?—Yes; these may serve to show the Commission the kind of children who are employed as half-timers.

11,902. What time of day do you have your half-timers?—From 9 till 11.30 and from 12.30 to 3, and on three days we extend it to half-past three for the drawing.

11,903. What time do you do your physical train-

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ing?—On Fridays from 10 to 11.30 and from 12.30 to 2—the quietest time we can get in the playground.

11,904. You think that if attendance was made compulsory after fourteen years of age it would be even worse in the result than the present compulsion to attend elementary schools?—I think they have not succeeded in getting them to attend up to fourteen years of age, and above that there will be more difficulty.

No truants: penalties.

11,905. Have you any truants?—No truants.

11,906. They are not allowed?—No, we report every week in the factory certificate book those who are absent, and if they are absent they are sent up next week to make up the time, and they will be a whole day at school, and that is so much off their wage. It is a very rare thing for them to be absent.

11,907. *By Mr M'Crae.*—How many schools have you in Dundee on half-time?—There used to be a great number, but there are only three now belonging to separate firms, Baxter Brothers, Wardmills School, and Seafield, and the School Board have St Andrews exclusively for half-timers, and classes for them in Brown Street School and South Road School.

11,908. Can you tell me whether physical training is given at all these schools?—I could not tell, but I think it is.

11,909. Have military drill and physical exercises been given in your school since 1880?—Yes.

Continuation classes.

11,910. You have no continuation classes?—Not now. We had them when I was appointed teacher there; we had evening school for four or five years, but the School Board set up schools and we stopped.

11,911. The reason that you have no continuation classes is that they would come into competition with the classes of the School Board?—Yes.

11,912. At what age do your pupils leave you?—Now it is fourteen. Last year they could leave at thirteen if they had passed the fifth standard.

11,913. Do you find that after fourteen they lapse into bad habits, or do they go directly into other work?—They may continue at the work for some time, or they go to some trade, but they don't lapse into bad habits—not in any numbers.

11,914. Do you think that there is really no considerable number that fall into bad habits?—No, not at our school.

Half-timers: work and education.

11,915. Do you find that with half-timers work at the factory is rather a relaxation than otherwise?—Yes, I think it fits them better to take education, and it is better than having a whole day.

11,916. What about the moral atmosphere of the factory?—I believe in Baxter Brothers there is nothing to complain of.

11,917. But generally?—I cannot speak about any others.

11,918. Is there separation of the sexes there?—Occasionally there may be males and females working in the same department, but I know that the employers are very careful in appointing men of good character to be foremen, and I never heard of anything wrong.

11,919. But from your knowledge—you have been twenty-eight years in this school—you would not say that there is any cause to be seriously alarmed about the moral condition of either the boys or girls?—Not at all—not in that work.

'Half-timer' defined.

11,920. *By Mr Fergusson.*—Would you kindly define exactly what a half-timer is? What age do they come and what standard do they have to pass?—The law has been changed this year. Since January the age has been raised to twelve, but before that it was eleven. They had to show a certificate that they had passed the third standard. Now there is no standard, but they must get an exemption from the School Board. They fill up a form, and the School Board may grant or refuse. There is no education test at all now.

11,921. When they come to you are they with you in the morning in one week and in the afternoon the next?—They are in the morning with me all week, and then next week they are with me in the afternoon—week about.

11,922. And you have no home lessons?—None whatever.

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11,923. Do you find any serious inconvenience in having no home lessons?—No. At one examination I asked the inspector if he made any allowance to half-timers, because we had no home lessons, and he said: 'No, that is in your favour.' He did not believe in home lessons himself.

No hom lessons.

11,924. Is that your experience as a teacher?—Yes, I think the whole of the standard work can be done in school hours better than by giving home lessons.

11,925. How do these half-time children compare in their knowledge of book learning with children who are at it the whole time?—We have the same examination to pass at the end of the year, and the inspectors' reports bear out that we are really pretty good invariably.

Half-ti and ord children compar

11,926. Of course the inspector remembers that you are half-timers, but can you give me any comparison between the standard of knowledge of your children and the whole-time children?—Here is an extract from the inspector's report, 'The general results of examination compare very favourably with those in the best 'full time schools.' That is some years ago. Here is another, 'A decidedly good appearance is made by the 'sixth standard pupils in all their work.'

11,927. Even with your half-timers you find an opportunity of devoting some time to physical training of all sorts?—Each section receives three-quarters of an hour. The instructor attends for an hour and a half in the forenoon and an hour and a half in the afternoon every Friday.

Trainin time all

11,928. You manage to do three-quarters of an hour of physical training in the week?—Yes.

11,929. Of course your boys are doing work, and that is physical training also?—Yes.

11,930. *By Mr Alston.*—You quite recognise the desirability of these children having physical training and military drill after school age?—Yes, I think it is a good thing to continue with.

Trainin fourteen necessar

11,931. Your idea is that they might be attracted by gymnasia?—They would require some place for drill, and if gymnasia were made attractive, I think the boys would be glad to go there.

11,932. Is that your experience of the Dundee boys?—They go to parks outside and play football at any spare moment.

11,933. That is a game of their own free will, but in continuation classes, where they are asked to come back for instruction in physical training and military drill, would they do so voluntarily?—They seem to enjoy their exercises at school.

11,934. And they would be equally keen after the control of school had been lost?—I think so. I don't see why they should not.

11,935. You refer to a possible class of rebels?—Yes, the compulsory officers would have some difficulty.

11,936. There would be no compulsory officer after school age?—Then how could you make it compulsory?

11,937. Would you advocate it to be compulsory?—If it was compulsory they would need some form of compulsion.

Compuls

11,938. And the attraction of the gymnasium would not be sufficient?—For some.

11,939. How could that be attained—compulsion for some and not for others?—That is the difficulty.

Manners.

11,940. What is your opinion of the boys of Dundee generally; are they rougher than in other towns?—I have not experience of other towns. I am a Dundee man myself, but I should say they are not noted for very good manners in the streets.

11,941. Is there anything in the early period at which they go to work that makes them rougher?—I don't think that. When I meet any half-timer I am always recognised in a respectful way, and they have as much manners as the boys in the Board Schools.

11,942. Not more?—Perhaps more. They are always very respectful.

11,943. That arises from your own training?—I suppose so.

11,944. *By Sir Henry Craik.*—You show in the

photograph some girls; have you girls in the school?—Yes, more girls than boys.

11,945. But you don't mention the girls once in your evidence; you say that there is physical drill and military exercises for the boys. Is there none for the girls?—No.

11,946. No physical training for the girls?—No.

11,947. Have you found it unsuitable?—Our time is short, and they have sewing to do, and that takes up their time when the boys are at the drill.

11,948. But do you give the girls no opportunities for physical training at all?—I believe that the work they have is very good physical training for them.

11,949. You don't mention about the future prospects of the girls?—They are serving an apprenticeship. They become spinners and weavers, and make good wages.

11,950. And are they taught in the same classes with the boys?—If a class is not very large we have boys and girls sitting side by side, but not mixed.

11,951. Is there a separate playground?—No, it is one.

11,952. You have big boys and girls all above the age of twelve; do you think that is a good arrangement—that these girls should only have the use of the playground to share with the boys?—There is never any trouble with them. I am usually on the playground during the interval, and the girls have their amusement and the boys have their games, and there is never anything wrong.

11,953. Have you traced any of the girls in the future?—They go to be weavers and spinners. Some may leave to be shopkeepers, but the weaving and spinning is mostly what they do.

11,954. They have very little opportunity of changing their lot afterwards?—No.

11,955. The half-time school, in fact, educates them to be weavers for the mill, and rather turns them specially in that direction?—Yes, more than for shop girls.

11,956. Do any of them go into domestic service?—Occasionally. I have heard of it.

11,957. But rarely?—I have not set myself to trace them, but I know that they do go to domestic service, and after a time they get married. They are respectable girls, and spinning and weaving is a respectable occupation.

11,958. *By Sir Thomas Glen Coats.*—You say that the proportion is larger with the girls than with the boys; how much larger?—For year ending September 30, 1901, the average attendance of boys was 80·3, and of girls 107·6.

11,959. I understood you to say that during the time the girls were in school they would have no less education than the full-time scholars?—Yes, we bring them on one standard a year.

11,960. And by the time they leave they are as well educated as those who attend the full time?—I think so.

11,961. Don't you consider that rather a strange state of matters; in that case you would say that half the time they devoted to teaching the scholars in the other schools is thrown away?—I have this authority (the inspectors' reports), and I remember Mr Peter Carmichael sent me the transactions of the Royal Society, and there was an article in them by Dr Richardson, and he maintained that 2½ or 3 hours was all the brain work that a child could profitably be given per day, and if that is the case I think that the half-time school gives the time required. It does not fatigue the brain, and if they are average children they can go on a standard without any home lessons at all.

11,962. The system in your school is that children attend the school half the day and work the other half?—Yes.

11,963. Do you think that better than the alternative system?—Yes, a little every day is better than a big dose every second day.

11,964. Then you say that in an ordinary Board School that a great deal more time could be devoted to physical training without at all interfering with the lessons?—Yes, I believe that.

11,965. You have arrived at that decision after the long experience you have had of half-time schools?—Yes, I tried home lessons for a short time, but I found that they were far better without them, and we got better results without them.

Employment at seventeen or eighteen.

11,966. Do the boys have the same occupations as the girls in the mills?—Not altogether. There is what they call the hackling department, where they have to screw and unscrew the grippers, and the girls are mostly at the spinning and taking off the full bobbins and putting on the empty ones. They have a long time to wait, and take a rest, while the work is not exhausting.

11,967. But later on the girls go on to weaving?—Yes.

11,968. And do the boys go on to weaving?—No.

11,969. Does their work in the factory practically stop after a certain age, say seventeen or eighteen?—I understand that they keep on a certain number. They never put away boys.

11,970. But they don't pay them anything like the wages that they could make if they were weavers?—A half-timer's pay is from 3s. 6d. to 4s. 3d.

11,971. But beyond that, when they have reached the age of seventeen or eighteen, we have had evidence that the older boys don't get the same employment in the mills that the girls do, and consequently, unless they find other occupations, they are apt to loaf about and get into bad habits?—I have information that thirteen to fourteen per cent. of the half-time boys remain at the work from sixteen and seventeen, and some are then employed as apprentice mechanics, clerks, assistant overseers, and loom tenters, but the majority of the half-timers leave the work and go to other trades.

11,972. As to the young people in the flax and jute mills, do the younger men get sufficient work when they reach the age of seventeen and eighteen. There is not the same scope for them in the factory as there is for the girls?—No, there are few required. It is light work, and it is the lighter ones that remain—the undersized boys that remain at the mill, and the bigger boys go to other work that is more suitable for them.

11,973. *By the Hon. Thomas Cochrane.*—You have an ex-sergeant-major as a drill sergeant?—Yes, all these years.

11,974. Does he do his work well?—Very well indeed. He is a trustworthy man.

11,975. Is he up to date?—He has changed always when the Regulations changed.

Military drill: no objection.

11,976. Is there any objection taken in Dundee to military drill and instructors?—I never heard any objection to it.

11,977. One witness who was before us from Dundee expressed a dislike to anything like military drill?—Well, the boys are not asked whether they will take it, and the parents are not asked if they will allow them, but the boys get military drill, and there has never been any objection.

11,978. If there was any objection, it would be an objection amongst a very limited class?—Yes.

11,979. You don't give physical exercise to the girls?—No; we try it occasionally. If our lesson happens to be on muscles or anything of that sort connected with nature knowledge, I may give them a little exercise to show how muscles are developed.

Girls: morally and physically.

11,980. Don't you think that it would be desirable for girls?—Yes; and if we had time we might give it to them the same as these boys, but being a half-time school, and having a certain amount of knowledge to impart, our time is limited, and I think we are doing very well. We began it long before the School Board.

11,981. Do your girls turn out well?—Yes, they are a good class of girls, and well developed.

11,982. And they make respectable wives and mothers?—Yes, I know some of them.

11,983. Dundee has rather a bad reputation morally?—I don't know that it is any worse than Edinburgh or Glasgow, but it might be better.

11,984. I am quoting from the evidence of previous

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witnesses from Dundee, who have given it a bad name to the Commission?—These girls (in the photographs) are as respectable girls as you will get in any Board School.

11,985. You think the girls are as good as in any other part of the kingdom?—There may be a lower class in Dundee, as in all other towns, but we do not get very many of them in a half-time school.

11,986. Do you think there is room for improvement in Dundee?—Certainly.

11,987. Do you think that the system of education in Dundee is apt to form the character of these girls and give them moral strength to resist temptation?—I suppose that is part of their education.

11,988. Has it had that effect?—I never saw anything wrong with the behaviour of the girls in my school.

11,989. But generally do many escape?—There are a great many children who escape education; I don't know how. They are truants and only partially educated. We have them coming to us when they are thirteen or upwards, just newly passed the third standard, and since January we get those who are in the second standard.

Truants. 11,990. Do you think that there is a large number of children in Dundee who escape education altogether?—I have been told that. I have it in print that there were about 2000 truants in Dundee; but, according to the School Board officer's report, there are 363 on his list just now with more or less unsatisfactory attendance.

11,991. In what school?—The whole of the schools.

11,992. Embracing how many children?—He has on his default list 1147 over the whole town attending school irregularly this year. Of those some were attending school more or less irregularly, and 363 unsatisfactorily—the truant class.

11,993. 363 habitual truants?—Yes.

11,994. How many children are there in the Board Schools in Dundee?—I could not say; but this is the officer's report for the month of April, where he said that he has 1147 on the default list, so many excused for illness, and 363 unsatisfactory.

11,995. Does he say what percentage that is of the whole?—He does not say. I just copied it down.

11,996. This amount of absenteeism is to be deplored?—Yes.

11,997. And do you think that the education in Dundee has borne good fruit?—Yes, I think so.

11,998. Are they better or more moral than they used to be as the result of education?—I think so, as the result of education. I think those girls who have passed the fifth or sixth standard have something better to occupy their attention than mere loafing on the streets.

11,999. You mean to say that girls that are better educated are better able to look after themselves?—Yes.

12,000. And place a greater value on their lives?—Yes.

The witness withdrew.

Mr A. Sturrock.

Mr Alexander Sturrock, examined.

12,001. *By the Chairman.*—You are a teacher of gymnastics in the University of St Andrews, and also in Dundee High School?—Yes.

12,002. You divide your evidence into two—one referring to St Andrews University and the other to Dundee High School?—Yes.

St Andrews University. 12,003. We will first take your evidence as to St Andrews University.

Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.*, football, cricket, hockey, etc. (1) Are they organised and supervised by masters? (2) What is the size of the playing field and its distance from the university?

(*b*) Drill: how taught, and by whom? Gymnastics, free or applied? Is there a gymnasium attached to the university?

(*c*) Athletics, *e.g.*, jumping, running, etc.

(*d*) Handicrafts.

(*e*) Voice-training.

(*f*) Cadet corps, rifle shooting.

(*g*) Swimming. Is there a swimming bath attached to the school?

(*h*) Fire brigade corps.

(*i*) First-aid and ambulance.

Games. (*a*) There are two football clubs (Rugby and Association) with senior and junior teams in each. Practice is frequently engaged in, and matches are played almost every week during the winter session.

There is no cricket played in the university.

A hockey club was formed some years ago and play (confined to women students) is frequently engaged in.

There are two golf clubs (gentlemen's and ladies'), and a mixed club for the practice of lawn tennis. The work of the latter club is chiefly confined to the summer session. The university provides good facilities for the practice of the game, and they are largely taken advantage of.

(1) The foregoing clubs are not subject to any direct supervision, but several of the professors are annually elected presidents and vice-presidents, and most or all of them contribute to the various funds, and otherwise interest themselves in the work.

Playing field. (2) The university is not in possession of a playing field of its own, but joins with the managers of Madras College in renting one containing about twelve acres, distant about half a mile from the university.

(*b*) There is a company of volunteers, R.A., in connection with the university, the members of which receive the usual instruction in drill from a resident drill instructor having the rank of sergeant-major. Gymnastics (free and applied) have been taught in the university by myself to the members of the gymnastic club for the last twenty-one years. This club, like all the others in the university, is formed annually at the commencement of the session, each member being required to pay an annual subscription of 2s. 6d. The University Court contributes a sum of £15 annually towards its maintenance, while Professor M'Intosh, who has been president of the club for a number of years, has on several occasions provided medals and other prizes to the successful competitors in the 'Display' sometimes held towards the end of the session.

(*c*) Jumping and running are both frequently engaged in in connection with the work of the gymnasium.

(*d*) There are no handicrafts taught in the university.

(*e*) Voice training is taught the members of the musical society by their conductor. This society meets once a week.

(*f*) Rifle shooting is engaged in by the members of the volunteer company, practice being encouraged by the presentation of a number of prizes to the successful competitors.

(*g*) There is no swimming or other bath attached to the university.

(*h*) There is no fire brigade corps.

(*i*) Formerly there was an ambulance class taught in connection with the volunteer company, but it has been in abeyance for some years.

12,004. What time is allotted to these or any of them *per diem* and *per week*? Are any of these taken in ordinary university time?—The gymnasium is open every afternoon on week days for individual practice, and on Saturday instruction is given by the instructor and assistants from 11 a.m. to 1 p.m. Instruction is also frequently given on the afternoon of Saturday and at other times when occasion offers. Drill is taught every week-day except Saturday, in the gun-room, at all hours, company drills being held twice a week during the last half of the session.

12,005. How far are the existing opportunities taken advantage of? Give numbers approximately under the various heads?—Owing to the large number of societies

connected with the university the existing opportunities are not taken advantage of as they might be. The number of members in each society or club approximately will be:—volunteers, 92; football (rugby), 40; (association), 35; gymnastic, 36; hockey, 18; lawn tennis, 45; golf (gentlemen's), 54; (ladies'), 20.

12,006. What organisation exists for the promotion of physical training in any form in the university?—Last session an athletic union was formed for the purpose of controlling the work of the clubs within it, but it is yet too early to speak of its influence.

12,007. What, in your opinion, are the defects of the system?—I find that towards the end of the university session so much work has to be accomplished by the students in connection with their class and degree examination that it is impossible to get them to take that interest in physical training which I think absolutely necessary. Owing to the pressure of work it is all but impossible to get the members of the class to attend. I have already stated that the prizes provided for the successful competitors in the competition forms a great inducement to the members to practice; and I have always endeavoured, in fixing the date of the display, to place it as near the end of the session as possible. The chief defect of the present system is the want of facilities. I may here state that although the members of the University Court are anxious to render every assistance possible, the state of the funds will not admit of any great liberality.

12,008. What remedies or suggestions have you to propose? Should there be any form of compulsion?—I would suggest that a good gymnasium, thoroughly equipped, be provided, and that a sufficient sum be annually set aside for its maintenance and for the payment of the instructor. Were such a gymnasium provided, I am confident that a greater number of students would be induced to take advantage of it, and it would give an opportunity of forming classes for the practice of elementary and advanced work for both men and women, and also for carrying out examinations which cannot be done at present except under very disadvantageous conditions.

12,009. Do you think a medical examination of students from time to time necessary, with a view of development of physical training?—Although I do not profess to be able to answer the questions regarding compulsory attendance or medical examination authoritatively, I venture to state, from my experience as a teacher of physical drill, that both would be of considerable advantage.

12,010. Generally, what suggestions or proposals have you to make regarding physical training in the Scotch universities?—Regarding physical training in the Scotch universities, the question is of too general a character for me to deal with except in a general way; but if I may venture to express my opinion, I would say that something like a three years' course, suited to the requirements of the students, might be established thus:—

The first year—Physical drill and light gymnastic exercises.

Second year—Dumb-bells, bar-bells, and applied gymnastics.

Third year—A revision of the first and second years' exercises, with boxing, fencing, etc., in addition.

12,011. We now come to your general evidence. State your school and university training, your former experience, and your present position?—I have had neither university nor school training, but my experience in the field of physical training has extended over a period of thirty years. I am at present engaged as superintendent of the Dundee Public Gymnasium, and physical director at the University, St Andrews, the High School of Dundee, and also in most of the private schools and colleges in and around Dundee and St Andrews.

12,012. Give details of your system of physical training, on what based, and how carried out, etc.?—During that time I have constructed a system of physical training out of the experience thus gained, the full details of which are contained in a book, *The Elements of Physical Education*, published and printed by Messrs Blackwood & Sons, Edinburgh, on my behalf, four years ago; but the fundamental principles of that system may be stated shortly as based upon what is known as 'Free Exercises,' all of which aim at the gradual development and cultivation of the various muscles, and are arranged on a graduated scale so as to meet fully the requirements of various of the sexes.

Dundee Physical Training College.

12,013. Describe your physical training college, how and when founded?—The Dundee Physical Training College is an offshoot from the class conducted by me for a long period of years in connection with the Young Men's Christian Association. It was built by public subscription about 11 years ago, and is a suitable building, and fully-equipped for all grades of physical culture. It contains a large hall, airy, lighted from the roof, which is supported by steel girders. The floor space is such that a class of from 100 to 150 can be easily handled. There are retiring rooms for males and females, which are fitted up with spray baths and all lavatory accommodation. There is a large gallery on the north side used for antagonistic exercises, extending into two smaller wing galleries for the public convenience.

Classes and courses of instruction.

12,014. Describe the syllabus, length of courses of instruction, number of pupils in particular classes, number of pupils attending per annum, etc.?—The syllabus contains an arrangement of classes consisting of policemen, volunteers, telegraph boys, and also for those engaged on night duties, such as printers, compositors, etc. There are also classes made up of those engaged in the various professions and trades, and so arranged as to meet the convenience of all. Ladies' classes are conducted during the day, and a special class is arranged for ladies, the majority of whom are either female clerks or shop attendants. School children and youths have also special meetings. The rudimentary lessons are confined to easy exercises.

The following order is the usual routine:—

(1) Drill,—military, Swedish, Swiss, etc.
(2) Physical Exercises,—marching, running, maze, free exercises.
(3) Dumb-bells or bar-bells.
(4) Gymnastics free. } 5
(5) Gymnastics applied. } 4
(6)

The length of each course extends over a period of ten weeks or three months, and the number of pupils in each class range from ten to forty. Altogether during the year there is an attendance of from four hundred to about six hundred pupils.

Teachers' classes.

12,015. How do you carry out the instruction and inspection of teachers? At what various centres do you hold classes for the instruction of teachers? Give the numbers attending these various classes and the length of course necessary to obtain certificate?—The instruction of teachers is carried out on the lines of imparting a full knowledge to meet the requirements laid down by the Scotch Education Act, and the inspection is made by an independent examiner, and consists of oral and written questions. Classes have been conducted by me at such centres as Dundee, Montrose, Leven, and Cupar (Fifeshire). The attendance ranged from twenty to fifty students. The course consisted of fifty lessons, of one hour each.

Certificates.

12,016. By whom are these certificates granted? How are these classes taught, and by whom? Give number of attendances necessary for gaining a certificate?—The certificates are granted by the directors of the Dundee Gymnasium and also by the Fife County Council. These classes have all been conducted under my special supervision. The number of attendances necessary to obtain a certificate is forty-eight.

Males and females separate.

12,017. Are men and women taught separately or together?—Men and women have separate classes.

Fees.

12,018. Give approximately the fees charged these teachers for courses of instruction?—The fees range from 5s. 6d. to £1, 1s.

Inspection.

12,019. How and by whom is the inspection of these classes conducted?—The inspection is conducted by

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Captain Armytage, Inspector of Gymnasia in Scotland, in connection with those classes under the auspices of the Fife County Council. The Dundee classes are inspected by myself. Each student is taken and individually examined.

12,020. Do you recommend teachers who have been granted your certificates to teach your system of physical training in their school?—Yes, certainly. Teachers are strongly recommended to teach the system they themselves have been taught.

12,021. Can you state as a fact that this is rigidly and extensively carried out?—I believe this is done generally, but there are no data existing to prove that it is done correctly, owing to the want of an officially-appointed inspector.

12,022. Can you state approximately the number of schools in Scotland in which your system is taught?—I cannot state even approximately the number of schools in Scotland in which my system is taught, but, judging from the large sale of my book on the subject, and the number of teachers who have passed through my hands during an experience of twenty years, the number must of necessity be very large.

System.

12,023. How often is your system changed and remodelled?—The fundamental principles of my system have never been changed, but I am at all times ready to make such alterations which I may deem necessary improvements. These ideas I have learned from observations during frequent journeys I have made to Continental Gymnastic Tournaments and meetings to which I have been invited.

Medical examination of teachers.

12,024. Do you consider a medical examination of teachers in view of their physical training necessary or desirable?—Yes, highly necessary and desirable.

Costume.

12,025. Do you recommend special clothing for boys and girls undergoing physical training?—Yes. A uniform of a distinctly woollen nature should be worn, together with light shoes or boots to support the foot.

Register.

12,026. Is there, at your Physical Training College, a register kept, showing the height, weight, chest-girth, spirometry, and biceps-girth of those attending the classes?—Only in cases medically recommended, and when pupils so desire.

12,027. Distinguish the following forms of physical training, viz.:—Ordinary exercise, ordinary work, walking and running, games—*e.g.*, football, cricket, etc.—free gymnastics, musical drill, applied gymnastics, military drill, voice training, rifle-shooting, boxing, swimming?—To distinguish the forms of physical training enumerated involves a considerable amount of detail. Each one has a distinctive feature, but not one of them by itself covers the whole field of training necessary to full physical development. This much may, however, be said in connection with each point, that it is absolutely necessary to get the pupil to bring his or her mind to be thoroughly interested in the developing of those muscles and organs which the exercises apply to.

Forms of training, merits.

12,028. What, in your opinion, are their respective merits?—If properly and systematically carried through under the direction of a *qualified* instructor, the exercises embodied in free gymnastics, musical drill, and applied gymnastics are all that is, in my opinion, necessary for a thorough physical training.

12,029. What, in your opinion, is their absolute and relative value to children aged from 6 to 12, 12 to 14, and 14 to 18 years? Are these or any of them required by, and advantageous to, the present race of children?—I certainly think every one of them is of advantage to the present race of children, and the exercises may be so graduated that the weakest, by careful treatment, may be physically improved and strengthened. Unless more attention is to be given in this direction in the future, I am of opinion the race will most assuredly deteriorate.

Effects.

12,030. What, in your opinion, are the effects of such physical training—moral, physical, and intellectual?—Where you have physical instruction imparted I have observed that the moral tone is of a higher order, the intellect is brighter and sharper and the physical figure more natural and healthy; this is only what might be expected, because the whole system is now in its natural condition.

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12,031. Is a uniform system in schools desirable or necessary?—Yes, I would say so; a uniform system is necessary in schools.

Uniform system necessary.

12,032. What system, in your opinion, do you consider the best?—All existing systems have good points, but to arrive at one definite system a representative board of experts would require to be formed for the purpose of framing a uniform system.

Systems.

Mind and body.

12,033. What is the relation between mental study and physical training? What is the just proportion of time to be devoted to physical training in relation to study?—The relation between mental study and physical training is this, as the mind is required to be fixed on attaining a certain or particular point of knowledge, so it has also to be concentrated on the development of any particular organ or muscle.

Daily.

12,034. Is physical training most advantageous if carried out daily in connection with school work?—Yes, that is so, if physical training is carried out daily.

Outdoor a indoor.

12,035. What are the respective merits of outdoor and indoor training?—Outdoor training is at all times preferable to that of indoor, provided the conditions are suitable.

Experienc

12,036. What are the results of your experience regarding physical training in all forms?—The results of my experience stated shortly are that wherever the art of physical culture is given even the slightest attention there you will find a superior class of individuals.

Suggestion

12,037. What remedies or suggestions have you to propose regarding the last part of the terms of reference, viz., how the existing opportunities for physical training may be increased by continuation classes and otherwise, so as to develop, in their practical application to the requirements of life, the faculties of those who have left the day schools, and thus contribute towards the sources of national strength?—I am distinctly of opinion that a course of physical instruction ought to be embodied in connection with the various school classes or standards, and this can only be done by the Government giving a grant in aid to provide qualified instructors and equipment that every facility and encouragement ought to be given for the same being fully carried out in connection with continuation schools. Further, I would suggest that the school playgrounds ought, during summer months, to be kept open for the use of those who have left school, and classes formed on a popular basis for giving an all round course of physical training and popular games.

12,038. Does your experience enable you to compare the physique of town and country children? What defects have you noticed, and in what proportion can they be ascribed to insufficient feeding, bad constitution, bad housing, defective training, disregard or ignorance of the ordinary rules of health?—From my experience I could not compare the physique of the town and country children, because the most of my work has been connected with the better class of schools among the pupils of which 'insufficient 'feeding, nursing, etc.' do not exist. However, I have had cases which have been medically recommended to take physical exercises, and when the pupils have been benefited; but in cases of round shoulders, hip deformities, I find that physical training imparted by me benefits not only those children but improves their manners as well. Gymnastic exercises are apt to be carried to an extreme if proper care is not taken.

Systematic training.

12,039. Generally, state your ideas and opinions on any additional matter within the scope of the reference, and furnish such further information in your power?—In my opinion, schools ought to have a systematic course of training, beginning the young children with calisthenic movements and introducing physical exercises of a more developing nature suited to the age and physique of the pupils. Our educational system in Britain is of a high order, why not introduce a physical system on the same lines, and

appoint centres where large gymnastic meetings could be held the same as on the Continent? Too much time is wasted in the evenings among our young people, and if an arrangement was made where classes in physical training could be organised and supported like our continuation classes throughout Scotland, it would have a tendency to encourage the people to take advantage of them and thus help to build up our nation.

12,040. In speaking of St Andrews University, you say, 'I may here state that although the members of 'the University Court are anxious to render every 'assistance possible, the state of the funds will not 'admit of any great liberality.' I suppose not much could be done if they have no money?—I do not know what they are going to do. We are getting on pretty well with the University, and if all goes well we will no doubt succeed. There are some nice gentlemen coming in about the University, and if we had another Andrew Carnegie or two we might soon get the gymnasium. I have plans drawn and ground looked out for the approval of any one like Dr Carnegie coming about, and if he wants to give a donation, there it is.

12,041. You are ready for him?—Yes. I have had the half of a church at St Andrews for a gymnasium for the last twenty years. When I came first there was scarcely any provision for gymnastics, but I put in the gymnasium. I am not saying that in a bouncing way, but I did it, and through going to the University I got engaged with one or two schools, such as St Leonard's; and the University were to give me £15, but I did not get it. I only got £10, so that the University, as far as gymnastics are concerned, is not a financial success to me, but I have a connection in St Andrews, or otherwise it would not pay me. I would not think of going to the University alone. I have Clifton Bank. I don't go to the Ladies' School now.

12,042. Passing to your Dundee work, you say that you have had experience in the field of physical training for a period of thirty years. Is all that you have said under that out of your own head?—Yes. I make my assistant do the military part and I do the physical training, and I get Colonel Cruden or some one round about to examine the pupils.

12,043. Are the certificates granted on your recommendation?—Yes, I know who should get them and who should not. Suppose they make a bungle of an examination, it is not to be held that they are the worse students. I let them have another trial, and I say that this girl or gentleman may be a little nervous.

12,044. I suppose a good many teachers are your pupils?—The most of the Fife teachers do my system—the whole of Fife almost and a good number in Forfarshire.

12,045. Do you make the teachers drill one another?—Yes, and I get Dr Lennox to come and examine them.

12,046. You have some ideas about special clothing?—Yes, more especially the slippers.

12,047. But you have not a register of your present College?—No, but I always know them. I have a register in a way, and they are not long in coming back to us, and they like to get something more.

12,048. By a uniform system, do you mean to say that you would like a uniform system all over Scotland?—No, not necessarily, but I would like to see all children getting some physical drill,—it does not matter to me what the physical training is. Supposing a Fife teacher is going down to Aberdeenshire, he has my system, and if another goes to London and takes up another system, don't let these men clash together; don't let us come bash up against one another—it is still physical training.

12,049. Do you think that physical training is most desirable?—I would like it every day, if possible, a little, more especially to the children. There must be games among the little children—some recreation and more recreation than sitting in a hot room in a country school.

12,050. You think that a little of it at a time is better than a good deal at a time?—Yes, about half an hour. *Mr A. Sturrock.* 19 Sept. '02.

12,051. Do you not think that it would be too much?—A quarter of an hour or a half an hour. I have seen me going into a school and saying 'Let me 'have a turn with these children,' and I would get them all standing up and go through a movement, and the children were brighter after they sat down again. Time: half an hour daily.

12,052. You were asked about remedies. I suppose your work has been connected with the better class of schools?—Of course, I don't like to mention about that, but I go and teach poor children, such as the blind children, and I have my daughter, who goes to the Orphan Institute, but, of course, these are not what you call the lower slum children. These are children who have come from the slums. I was the first to introduce gymnastic classes into Church Societies and Mission Halls in Scotland. I saw on the Continent how they did these things, and I got the first gymnastic team to go through the Church and do that sort of work, and then the physical training teacher took up the work.

12,053. What is your opinion about compelling those under fourteen years of age to do physical training?—Lord Balfour, in the 1890 Code, gave a grant for education along with physical training, but why not open the door wider and let the children come for the one subject. Let us have one subject and give a grant for physical training alone. I have a gymnasium in Dundee, and I got one put up for a lady, Miss Wilson of Bantaskine. That lady has got the gymnasium put up, but she cannot get the people to go in. I have been the means of organising a lot of these throughout Scotland. Miss Wilson opened the door, and she complained of the older ones taking the younger ones away to the public-house, and if she had a grant from the Government or some other source to get those boys to come in and do gymnastics, they would come, but the moment they have to go to a continuation school they don't go.

12,054. *By Mr Shaw Stewart.*—That is at Camelon?—Yes, and the same is done at Leith.

12,055. *By the Hon. Thomas Cochrane.*—About those classes that you hold for teachers, you hold them in various parts of the country?—Yes. Teachers' classes.

12,056. And in Fife they are inspected by Captain Armytage?—Yes.

12,057. He is an expert?—Yes, as good as any that I have had.

12,058. He inspected your class at Cupar?—Yes, and at Leven, and did it very satisfactorily. Inspection.

12,059. Apparently he did not think so much of your work at Cupar?—I don't know that he said that.

12,060. He was before us as a witness, and he said, 'Looking at it from a gymnastic point of view, and 'rather putting it on general terms, it was certainly not 'up to the quality of the work done at Aldershot'?—That was possibly in the military system. You have a military man, but not a military training man. Captain Armytage was a military man.

12,061. He was Inspector of Gymnasia for Scotland?—Yes. My work was not of a military nature beyond physical training.

12,062. What he said was, 'I asked Mr Sturrock to 'put the Board School teachers in Fife and district 'through as a class, and he put them through under an 'instructor, who, I believe, was a corporal of the 'Volunteers. I saw him put them through about three 'movements. I called out Mr Sturrock at once. I 'said, "Do you realise that the instructor has already '"made several mistakes, and has not checked the teachers '"in the least? You must understand that this class has '"been a class for teachers, and these teachers have got '"to instruct children afterwards. If they are not '"instructed properly themselves, they cannot be expected '"to know how to instruct." That was the main point 'of the thing. Then I also discovered that they had 'only been taught a very limited amount of the course—'in fact, I believe Mr Sturrock was under the impression 'that he was going to examine the class until I appeared,

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'and I found that the work had not been thoroughly 'done'?—That was the military part of the work, I suppose.

12,063. He found that you did not carry out the work as he would have liked to carry it out?—He did not give me anything to carry out. I had to do that on my own responsibility.

12,064. He came to the inspection and he did not seem to be satisfied?—The man that I got was a Volunteer corporal simply, because I was refused one out of the Perth barracks. My military instructor was called up at the time to active service.

12,065. Where did you get your own training?—It was done by Mr Herbert, who came from London to the Dundee Volunteers, and he trained me. I was also under Captain Roland some years ago.

12,066. Who was he?—He went round Edinburgh and taught fencing twenty or thirty years ago.

Universities should have gymnasia and swimming baths.

12,067. *By Mr Shaw Stewart.*—With regard to the physical training at the University of St Andrews, you think that any physical training at the University must be quite imperfect without a gymnasium or a swimming bath?—I think that every university in Scotland ought to have them both.

12,068. And if they don't have them, the young men attending the universities cannot be said to be properly trained?—No, they are not physically trained, and they are not of great use to the world in many respects after they go away, because the mind is the master and the body is the slave to these gentlemen after they go away from the universities.

Teachers' classes.

12,069. *By Sir Henry Craik.*—Those classes for teachers that you speak of are conducted under the management of the County Council of Fife?—Yes.

12,070. What is the financial arrangement—do the County Council pay you a certain sum?—They give me £10.

12,071. And do the teachers pay you a fee besides?—No.

12,072. Do you say that these range from 5s. 6d. to a guinea?—That is in the Dundee Public Gymnasium.

12,073. Why do not the teachers go to the gymnasium when they have the opportunity open to them?—I don't know, but they don't do it.

12,074. Are you aware that the Code permits any authority to establish classes for which the Department gives a high grant; why do they spend their money doing what they can get done from the public funds?—I don't know why they do it, but they come and pay me a fee, and I have two or three already booked for next session.

12,075. But besides that, you carry on other classes for the County Council, which these teachers get free?—I only teach the physical training.

Certificates.

12,076. You grant certificates; what is the value of them?—It is physical training and military drill.

12,077. But what rights do they carry to the holder?—They can go and teach the children the system that I have taught them.

12,078. But anybody can do that?—Yes, but it is under the Education Department that I am, and I grant the certificate.

12,079. You are taking it on Captain Armytage's report; your certificate does not give any right in respect to the Department. When Captain Armytage came down to your class and inspected it, he made the report on the individual scholar, but he did so not as your agent, but as an officer of the Department?—Yes.

12,080. And the Department granted the certificate?—Yes.

12,081. What fee do you charge for your certificate?—2s. 6d. as a rule.

12,082. Was any fee charged for that certificate issued by Captain Armytage?—Not that I am aware of.

12,083. Why do the teachers prefer to pay 2s. 6d. for one that was not official rather than get one officially for nothing?—They wished to have a certificate from the Dundee Public Gymnasium under my instructions.

Systems: differences.

12,084. *By Mr Fergusson.*—About these systems you spoke of as clashing, I suppose there is not much difference between Chesterton's and Colonel Cruden's?—The one is done to music and the other is not.

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12,085. Otherwise the general principles on which they are founded are the same?—Yes, they are pretty nearly the same.

12,086. May we say the same about your system?—Yes, they are much about the same.

12,087. You would not advocate such a hard and fast system being laid down as to be exactly the same everywhere?—You might modify it a little.

12,088. If general principles are laid down, isn't that sufficient?—Yes; I do not quite get at your meaning.

12,089. You said that the difficulty was that these systems clashed, but they are on general principles the same?—Yes. It is when they go into another school.

12,090. But the general principles are the same?—Yes, all the same.

12,091. Do you know anything about the American system—one called Stone's School of Physical Culture?—No. I have the book, but I don't know anything about it.

12,092. They profess to do all that is required in from five minutes to a quarter of an hour's exercise every day; do you think that is sufficient time for physical exercise?—I would like that to be done, but I don't know how he does his exercise.

12,093. Do you think that is sufficient?—Yes, I think so.

12,094. Not in large doses?—No.

Gymnas shoes.

12,095. The Chairman asked you about suggestions and you spoke about slippers; do you mean that in physical training?—No, it is in the gymnasium. The boots are too heavy. At one of the industrial schools I pointed out to the examiners that the boots were far too heavy. There are many bones in the foot, and if one was knocked out, a person might be crippled for life.

12,096. How can you remedy that?—By giving the children lighter-soled boots.

12,097. Can you do that with a Board School?—If you cannot, then do away with the instep movement.

12,098. You would rather do that?—I did that at the Orphanage, and the inspector has ordered other boots.

12,099. Do you say that you would rather leave the exercise out than do it with those heavy boots?—Yes.

Military

12,100. *By Mr M'Crae.*—A part of your system comprises military drill?—Yes.

12,101. Do you teach that yourself?—Forming fours and opening out I do, but beyond that I do not do it.

12,102. What training had you with regard to the military part of it?—I went to Cupar, and I have a good friend in Sir John Gilmour. I assisted him in the riding school, and I got his own instructor for the Fife Light Horse, and that is the way I got my training. I have also been in Portsmouth twice, but I have never gone to Aldershot. I have had the honour to be invited to the Continent to these huge displays, and I saw the system in the military way. I came away and compared it with our military way, and I told General Chapman that the turnings of our military steps were different from those in Italy. I said, 'You draw back 'your right foot till the toe touches the heel of the 'left (one) and (two) you turn round, and (three) you 'bring up the foot, but the Italians turn on the heel of 'the right and bring up the left foot smartly to that of 'the right.' He said, 'It would never do on a hill; 'you would tumble,' and I said that it was at Lugano, on a hill, where I saw it.

12,103. Is military drill done at Dundee in the evening classes?—No, it is not. There was one question that Sir Henry Craik put to me, that the certificate of the gymnasium was granted by the Education Department, but the certificate of the Dundee Public Gymnasium was recognised by the Education Department. I would like to point out that the certificate that they pay a fee to me for is recognised by the Scotch Education Department.

The witness withdrew.

Mr H. F. Hunter, examined.

12,105. *By the Chairman.*—You have a *précis* of your evidence?—Yes.

I am a Government certificated teacher of the first class, a matriculated student of the Royal University, Ireland, and a teacher of almost sixteen years' standing.

In my present position as master of the senior department of All Saints' Episcopal School, Edinburgh, I have been almost twelve years.

This school is situated in a confined street, within the populous neighbourhood of Tollcross, Edinburgh, and is capable of accommodating over 300 scholars—infants and juveniles—with an average of about 260.

The ages of the pupils vary from five to fourteen years, the usual period of school age for elementary schools.

The parents belong to the working class, following the usual occupations, *e.g.*, millworkers, joiners, shoemakers, tailors, printers, etc.

All are fairly well off, and keep their children clean, tidy, and apparently well fed. There are a few exceptions, but these are the children of hard-working mothers (widows).

Meals and clothing are provided to a few of the poorest during the winter months by the Association for the Improvement of the Condition of the Poor.

These helps have been the means of producing regularity among this poorer class during a period of the year when most indoor drill is done, and I have concluded from their brighter appearance that they have benefited both in body and mind.

Very few of the scholars have long distances to come, as the school is supplied from the neighbourhood. There are several who have a quick twenty minutes' walk.

No definite system of physical training has been adopted; but in marching, changing of classes, and while sitting in class, the posture of the body is attended to.

In the physical exercises taught to the pupils, the musical drill exercises in Gill's book are followed for the two junior classes, and also a small part of the physical exercises as arranged by T. Chesterton, Teacher of Physical Education to the London School Board. The former have been used for several years, and the latter during the last two years, both being taught by junior teachers under my supervision. In the senior classes, hoop drill as given in Cruden's drill-book, and physical exercises as arranged in the Medburn Musical Drill, are given to the girls. Preliminary physical drill without arms was also given three years ago. The hoop drill has been used for the same time as Gill's Exercises, while the Medburn drill has been in vogue for the last two years. Chesterton's Physical Exercises have been begun this year.

The boys receive military drill as far as can be done without arms as well as the physical training. This year, however, I have been able to have the use of rifles, and began to drill with them before the summer vacations.

Each class receives thirty minutes per week. At first the boys received their military drill from a teacher who was a sergeant in one of the city Volunteer corps. When he left the work was carried on for a time by the janitor, formerly a sergeant-major in the H.L.I. The work is now undertaken by myself, who am an ex-member of the Border Rifle Volunteers, and at present an officer of the Church Lads' Brigade organisation. All the work here has been well reported on by H.M. Inspectors.

As to the pupils' interest, I have not the least hesitation in asserting that they seem to look forward to it, as the attendance is usually good on those days. Unfortunately our accommodation is very limited, both indoors and in the playground. The nature of the building prevents any improvement, while there is no room for the extension of the playgrounds. Games could not be organised in these, and the children, chiefly the older ones, play in the front street.

For better teaching and greater enjoyment of the exercises, I think every school ought to have a special room, well lighted and ventilated, provided with the necessary apparatus, and capable of holding a class. Here every class could receive regular systematic lessons, say twice or thrice a week, of twenty to thirty minutes' duration. In this way the benefits of the training would soon be apparent. — Special room.

There are no continuation classes in connection with this school. — Continuation classes: none.

Some of the boys and girls from this school find employment in the mills, but the majority follow trades. — Medical examination.

No great outbreaks of disease have occurred beyond the usual children's troubles—measles, fever, whooping-cough, etc. We have no medical examination, but such, I think, would be desirable, particularly with regard to the pupils' eyesight and hearing.

I am in favour of physical training in all schools and for every child, if physically fit, as a means of inducing a healthy body and mind, capable of receiving instruction with alertness, brightness and intelligence. In many cases this training would, to a small extent, help to counteract the influence of the confined homes, and, in the case of boys, might induce them to ask and look for more of it when they have left school. — Training desirable for all.

Physical training for those between fourteen and eighteen years of age would certainly be good, but it is one of the difficulties to persuade them of its benefits. Compulsory training for these ages would be a difficult matter, as boys cannot be so easily reached after leaving school. Here the Boys' Brigade and the Church Lads' Brigade are doing good work. In the former, however, the age of admission is too young, taking schoolboys into its ranks who are already receiving some physical training. If these younger ones were out, this might be an inducement for older lads to join who might otherwise join, but do not care to mingle with schoolboys. — Fourteen to eighteen: compulsion inadvisable. — Boys' Brigade.

Special classes for older teachers would assist them. They, in turn, could undertake the training of the pupil teachers along with their classes, if physical training were made one of the compulsory subjects in their (pupil teachers') curriculum. Two or three lessons weekly would suffice. They (pupil teachers) should also be required to instruct a class to H.M. Inspector's satisfaction. Certificates of ability to instruct pupil teachers as well as pupils should be granted only after the training college period, or from a special school for physical training. — Teachers: qualifications.

The best instructors in this work are military men who have had experience of it. I think one-and-a-half hours per week in three half-hour lessons would be sufficient. — Instructors.

There is little loafing in this quarter, as far as I have noticed.

I have had no experience of continuation classes, but I would think that, if under physical training gymnastics were included, there would be no doubt of its popularity.

I have never considered the question of rifle clubs.

No objections have ever been made by parents.

All the exercises and drill used here have tended to smarter movements and readier obedience in the performance of their work.

No systematic series of lessons upon rules of health is given, but, in our scheme of nature knowledge, lessons on the structure of the body are given. — Physical education.

Reading rooms, with simple games of dominoes, draughts and chess, are often employed, but, if there were gymnasia attached, for which a nominal charge was made, a good many of these growing lads might be induced to use them, and so be drawn from parading the streets. This was my experience as a lad. — Gymnasium.

12,106. What did you say about the age of admission into the Boys' Brigade being too young? I suppose it was not too young formerly, but it is only since then that the age has been increased?—I have considered all along that they were a trifle on the young side.

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12,107. They were not receiving physical education before as they are now?—Recently it has been more developed, but I consider that the age is on the young side because of that.

Church Lads' Brigade.

12,108. Have you a company of your own?—No; I have a company of the Church Lads' Brigade, which is an Episcopal Church organisation.

12,109. I suppose your school is managed like most schools of the same kind by a committee of managers?—Yes, the Vestry of All Saints' Church.

12,110. How long has it been established?—I was a pupil teacher there, and I began my apprenticeship in the year 1880. It was in existence for about three years before that. It was a school before it went down to All Saints' in Glen Street.

12,111. You have an average of about 260?—Yes, infants as well as juveniles. Last year the juvenile average was 157.

12,112. Do they have physical training for the infant division?—I have no control of them. They are of various ages. Last year I got a class up, and the average was between eight and nine. There were a good many over ten and nearer eleven.

12,113. When they came to you from the infant school?—Yes; but these had been late in admission to the infant school. Being old, they were put into what is known as Standard I.

Inspection.

12,114. Who inspects your scholars in physical drill?—His Majesty's Inspector, Dr Thomson, or his assistant.

12,115. Whenever he happens to come?—Yes.

12,116. Do you know whether he was satisfied?—I had one of the assistants, Mr Andrew, who took the boys into the playground for drill, and he mentioned to me that they had performed their work very well. The girls upstairs were being exercised in the hoop drill in the presence of Dr Thomson, and he expressed himself to the same effect.

Girls and boys.

12,117. Have you girls as well as boys?—Yes.

12,118. Do the girls do physical drill?—A little, according to Chesterton's book now.

12,119. Who examines them?—The same inspector.

12,120. Are there any other sub-examinations, or only the one annually?—Just the one annual examination, except the Scripture examination, but that is not recognised by Government.

12,121. But in physical drill?—No, just the one.

12,122. Do the managers take much interest in the physical part of the education?—I cannot say that they do. They don't visit us very often.

12,123. Who suggested Chesterton's name to you?—I happened to be wanting something better than Cruden's hoop drill, and I had a look at Chesterton's book, which I thought was the very thing.

Training: more should be given.

12,124. Now what is your opinion as to the sufficiency of physical training that is given to your children. Do you think it is enough?—No, it might be more, and I should like to have more.

12,125. What hinders you from having more?—In the first place I have not sufficient room, and in the second place the staff is not big enough to allow the class to be broken up. I have two classes to supervise myself.

12,126. Are they under pupil teachers?—No, ex-pupil teachers.

12,127. And do they know anything about drill?—One takes a class while the other takes another lesson, and my double class is being taught by another.

Music.

12,128. Is any of your drill done to music?—Yes.

12,129. Who plays?—One of the teachers.

12,130. You never make the pupils play?—There are none of them that length.

12,131. Do you teach music in that school?—We teach singing.

Drill in playground.

12,132. Do you do physical drill without music?—I have asked the boys to whistle in the playground, but not the girls upstairs.

12,133. Do you drill the boys in the playground?—Yes.

12,134. Have you no other place to go to except the playground?—No.

12,135. And never any possibility of taking them out?—No.

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12,136. Or even taking a walk up to Arthur's Seat?—I have never got permission from the managers to do that.

12,137. Have you asked it?—No.

12,138. Do you not think something of that sort would be very useful, to take the whole school out, or has it never struck you?—It never struck me to take the whole school out.

12,139. Or even in batches?—Then I would leave no responsible certificated teacher.

12,140. You would rather take them out all at once or not at all?—Yes.

Outdoor space.

12,141. *By the Hon. Thomas Cochrane.*—You say that the building of your school prevents any improvement?—Yes.

12,142. Why is that?—It lies immediately behind All Saints' Church, adjoining All Saints' Mission Home, and the playground is between the Home and the school. The place is not a school at all; it is known as Lauriston Hall, and on one side houses continue up the street. Behind there is Brougham Street, and in front is a Roman Catholic school. There is no room.

12,143. Not even on the roof?—No, it is a high building.

12,144. Is there any park where the children can play?—The nearest is the Meadows, about five or seven minutes' walking distance.

12,145. Are there any games there?—Running about games, but no apparatus.

12,146. Not a corner reserved for the children?—There is one away at the far end of the Meadows, about half an hour's walk.

12,147. And if there was one at the near end, would that interfere with the public?—I don't think so, if it were placed in the corner where there is a large amount of shrubbery.

12,148. Do you think it would be taken advantage of by your children?—Yes, and by the scholars of the Roman Catholic School opposite mine.

12,149. It would keep them out of mischief?—There is a possibility.

12,150. Is there any opportunity of playing football there?—No, we are not allowed.

12,151. Is there any reason why?—It would damage the ground, that is already used for cricket.

12,152. Is there any other ground?—I have a football team, and we go to a park, but it is being cut up by the Corporation, and soon we will not have any use of it.

Playing fi

12,153. But you would be glad if some means could be found whereby your children could play football at certain hours?—Yes, because the boys are keen about it. I have gone with my boys to every match except one. I made a point of going, even although it was a sacrifice to myself, and I found that it had a beneficial effect.

12,154. Do you think that if it were brought to the notice of the authorities they might do something?—They might, but it has been a long cry for a playing field for the schools.

12,155. A long-felt want?—Yes.

12,156. Last year we had a little privilege granted to us in being allowed to play in the East Meadows during the forenoons, and that was the first that has been granted for many a long day.

12,157. Supposing such a privilege was granted, how would you provide them with footballs and other apparatus for playing?—The footballs that I have got just now were obtained by voluntary effort from old scholars.

12,158. Do you think that could be further extended?—Yes, because the older boys had a football club of their own and they allowed us the use of their apparatus. Being a church school, I am in greater touch with the old scholars than the majority of School Board teachers.

Certificate

12,159. How are certificates of ability granted just now?—The only one that I know of is from Cruden's school in Aberdeen.

12,161. Do you think that a great deal of uniformity would result if they were granted from some special school for physical training, or do you think that would require more regulation?—Yes.

12,162. Are they inspected by the Education Department?—No.

12,163. Did you get a certificate?—No, there was nothing of that kind when I was at Training College.

12,164. Did any one of your pupils get a certificate?—Yes, one of them; she was a lady, and got a certificate from Cruden's.

12,165. Do you think that if not properly supervised they might be improperly earned; that is to say, that a person might get a certificate which was not warranted?—That might possibly be the case, but that was not the idea that was in my mind. The idea that I had was that there might be a uniformity of work.

12,166. You speak of your experience as a lad parading the streets; did you ever parade the streets?—No, I did not care for that. I was a cathedral chorister in St Mary's, and we had a little gymnastics granted to us there, but two or three of us found that it was not sufficient, and we regularly tramped to the Chain Pier at Trinity and took advantage of the small gymnasium at the end of the Chain Pier. I found each time that I visited it there was a goodly number of young fellows there. We paid 1d. to get on. There was swimming at the end of the pier, but we went for the gymnastics.

12,167. Did you find the advantage of the gymnastics?—I found that it helped me in my work. I was rather a book-worm, and I only wished that I had had the same physical training in the Training College.

12,168. Other lads, you think, would be benefited by it if it were made easy for them?—Yes.

12,169. *By Mr Shaw Stewart.*—You use Gill's book?—Yes.

12,170. This is the first time we have heard of it; is it similar to Cruden's?—Much the same. It has the drill on the one side and music on the other. That is why I took it first of all.

12,171. Is it used in other schools?—I could not say so.

12,172. In your time-table you do not say the length of time occupied in physical training?—I say that our classes receive thirty minutes.

12,173. Is that all the time that each class gets?—Yes.

12,174. No short intervals?—Except in the playground, where we assemble for only a few minutes.

12,175. Would it not be an advantage to have a little time each day?—Yes.

12,176. Do you think it could be done without interfering with some of the other work?—Some of the other work would have to go.

12,177. *By Sir Henry Craik.*—The fact is that there is no opportunity for games in your playground?—None. The only game is running about.

12,178. Is there only one playground?—One for the boys and one for the girls. They are very small.

12,179. Do the girls play at all?—Skipping-rope.

12,180. What is the amount of drill given to the girls?—Exactly the same as the boys, thirty minutes.

12,181. But they don't take part in the same exercises?—No; they have Medburn's and Cruden's, and we have begun Chesterton's.

12,182. Do you find that the same exercises suit for boys and girls?—This year we are giving Chesterton's for boys and girls separately. We do the boys' work while the girls have needlework.

12,183. Have you any objection from parents?—No, but I have had a line to be excused for the day.

12,184. You don't consider that thirty minutes a week without much opportunity for games is anything like an adequate time?—No; I should like to see it twice or three times a week.

12,185. But every day there ought to be some games?—They are running about.

12,186. But that has to be done on the street?—Yes, because we have not sufficient room in the playground.

12,187. *By Mr Fergusson.*—Are there many badly-fed children in your school?—No, last year I had six.

12,188. Are these all that meals are got for?—Yes, they get meals by making special application.

12,189. Do you see much benefit both to body and mind?—Yes.

Systems.

12,190. You have had experience of Medburn's and Gill's and Chesterton's; what is the advantage of Chesterton's?—I find that Chesterton's exercises every part of the body in turn.

12,191. Isn't that the same with Cruden's?—I have only used the hoop drill with Cruden's.

12,192. You have not studied his book?—No.

12,193. But you think that there is a lot of variety in Chesterton's?—Yes.

12,194. There is no music in Chesterton's?—There are two pages of music, but these pages are an indication of what music you might choose to apply to drill.

12,195. You spoke of having two classes to teach; do you consider that for ordinary work you are under-staffed?—Just now the school is under-staffed. We are at the minimum when I am out.

12,196. Can you look after two classes?—I try to do justice with two, but I unite several lessons.

12,197. Can you not unite two classes for physical drill?—They are united.

12,198. But still both in staff and buildings you are not very advantageously situated?—Very far from it.

12,199. *By Mr Alston.*—You say that no definite system has been adopted; you use no fewer than four different systems; is that from your own choice or from the difficulty of adopting one?—When I wrote down 'no definite system,' I understood that the system meant was to be a Government system, and I was left to my own free will. I found that Gill's was good for the younger ones to begin with, and I continued it.

12,200. Do you not find that it has been introducing a difficulty not to adopt one book alone, without saying whose, the one that you thought to be best?—In using Gill's I use it more as a musical drill, and I am using Chesterton's book for physical drill, one to train the ear to time and the other to advance the physical nature of the body.

12,201. Supposing you had a lady pupil or a gentleman from one of these training colleges, with a certificate of efficiency, it would be only one system?—Yes.

12,202. Would it not be an advantage to have a uniform system of physical training?—Yes, if it were begun in the infant room and carried out; but I have no control in the infant room, and I cannot begin there.

Gymnasium: great attraction.

12,203. You say at the end, like many other witnesses, that you think a gymnasium attached to a continuation class would be sure to attract the boys?—Yes.

12,204. Is that your experience?—To give you a reason, I happened to be passing the Western Branch of the Library, and I saw the caretaker removing numerous lads from the doorway, and I found a great number of the lads playing dominoes, and I asked why they could not all have a chance. I suggested that they might be doing something else, and hence my idea of the gymnasium. Then, when I went first from Edinburgh, I was secretary and treasurer of the Young Men's Friendly Society in Ayr, and we met three times a week for games. One of the attractions was two or three pairs of boxing gloves.

12,205. You think that a gymnasium would be a great attraction?—Yes.

12,206. You would not leave the gymnasium free to boys without supervision?—No.

12,207. You would have a skilled teacher?—Yes, certainly.

Military training.

12,208. *By Mr M'Crae.*—I think you say that at first the military part of your physical training was given by a sergeant of one of the City Volunteer Corps, and it is now given by yourself, you being a member of the Border Rifle Volunteers; what rank did you hold?—I was just a private.

12,209. Did you go in for an examination for proficiency?—I was not long enough in the volunteers to do it. The sergeant who was my instructor was in your own regiment.

12,210. Why did you discontinue the sergeant instructor?—He left.

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12,211. It was not a question of expense for the school?—It was Sergeant M'Kinnon, of your own corps. He was a teacher at that time.

12,212. Have you seen the new drill book?—I am using it with the boys just now. I was at it this morning.

The witness withdrew.

Mr R. G. Gordon.

Mr R. G. Gordon, examined.

12,213. *By the Chairman.*—Are you at the Edinburgh University just now?—Yes.

12,214. I am very glad to have the opportunity of seeing one actually in training at the present time; how long have you been there?—Five years.

12,215. How long do you contemplate being there?—Another year.

12,216. I suppose you have been asked various questions, have you not?—Yes, I have had questions put to me to answer.

Edinburgh University: existing opportunities.

Existing Opportunities for Physical Training at Edinburgh University.

1. Edinburgh University Athletic Club.

Sections (*a*) Rugby football. (*f*) Boating
(*b*) Association. (*g*) Hare and hounds.
(*c*) Cricket. (*h*) Boxing.
(*d*) Tennis. (*i*) Fencing.
(*e*) Hockey. (*j*) Golf.

Volunteering.

2. University Volunteer Corps.
   i. No. 2 (University) Battery 1st E.C.R.G.A.V.
   ii. No. 4 Company Q.R.V.B.R.S.
   iii. Royal Army Medical Corps (Volunteers).

Voice training. Beagling.

3. Voice training.
4. Beagling.

Organisation.

Membership of the Athletic Club is open to past and present members of the University and Royal College of Surgeons. The general finances and affairs of the club are managed by the Senior Field Committee, which is composed mainly of professors and lecturers, some of whom are elected by the Senatus and University Court. In addition to this committee, there is the Athletic Club Committee, composed of a treasurer elected by the Field Committee, a secretary, and about six members elected by the Athletic Club, and a representative from each section. This committee meets once a week.

Each section of the Athletic Club has its own committee and office-bearers. The general expenses of each section are paid by the Athletic Club, and each member of a section has to pay a sectional subscription to the Athletic Club.

The Athletic Club has a membership of about 350; the most popular section is the Rugby Football section, which last season had a membership of seventy-three. The other sections have the following memberships:—

Tennis	50
Hockey	48
Association football	32
Boxing	30
Hare and hounds	29
Boating	27
Cricket	26
Golf	7

Volunteer corps.

The Volunteer Corps are organised and supervised by the commanding officers of the brigade to which they belong, not by the University. No. 4 Company has a membership of about 170, the R.A.M.C. has about 100, and the Battery about 75.

Defect: University field too far distant.

A great drawback to the obtaining of exercise and physical training is the want of any place near the University where men could go to to get some exercise when they only have one hour to spare. The University field is fully two miles away, and it takes up a whole afternoon for a man to go out there and get some exercise.

No gymnasium or swimming bath.

There are no baths or a gymnasium in connection with the University. The two private baths in Edinburgh have a fair proportion of student members, but both are about a mile away from the University.

Fives courts.

Fives courts, if situated beside the University, would be very useful, and supply a want to those men who have an hour to spare and wish to get some exercise.

Another great drawback is the number of classes which are held in the afternoon; in winter especially a man has often to choose between missing a class or getting no exercise.

Time of classes in winter difficult.

A uniform system of physical training throughout the universities would seem to be undesirable in view of the principle on which Scotch universities are conducted, *i.e.*, that the doing or not doing of certain things in most cases is left entirely to the will of each student.

Uniform system undesir.

12,217. Then as to voice training?—I should not have put that in. There is music, but it is all theoretical. This should have been omitted. No. 4, I put in in answer to the question whether I had anything else to add. I put in beagling, as there is a beagling club. I might add that the golf club has also outside members, so that the seven do not represent the whole membership, but they represent the University members.

12,218. Do they represent the whole of the University membership?—Yes, but of course a lot of other fellows play golf who are not members of the golf club. They do not play in connection with the golf club.

12,219. With regard to your statement, 'That the 'doing or not doing of certain things in most cases is 'left entirely to the will of each student,' that is an unwritten law?—Yes. I mean by that that at Oxford and Cambridge fellows seem to have to go to chapel in the morning and to be in at night at a certain time, and here, when fellows live in lodgings, they do as they like.

12,220. Is there any means, in your opinion, by which you could obtain some exercises and physical training in the University?—We have not a gymnasium at all, and to a certain extent that is a great drawback.

12,221. Do you know whether the question has been urged on the authorities?—We used to have a gymnasium down at the old buildings. Our University is in two parts, the old buildings and the new buildings. We used to have a room in the old buildings which was used as a gymnasium, but that was given up some years ago, and I don't think the matter has been brought up.

Student Union.

12,222. Is there any place for single-stick or anything of that kind?—I should say that when the Union was started there was a room in the basement which was specially built as a gymnasium. The Students' Union is a sort of club, and when it was started there was a room for a gymnasium, but it was given up. I don't think the place paid, and they turned it into a billiard room. There was no gymnasium, but in the hall of the Union there is boxing and fencing.

Baths.

12,223. Of course if there were baths it would be a capital thing?—Yes, I think they would be well patronised.

12,224. But no representation on the subject was made?—No, so far as I know it was never asked for.

Drill.

12,225. As to actual physical exercise, have they gone to drill?—In the volunteer corps I expect they get it. I know that in the battery we get some occasionally at camp, but apart from that we do not have any. We have marching drill occasionally.

12,226. But are there many who don't go in for many of these things?—Yes, the great bulk.

Large portion no training want.

12,227. A large proportion who have actually no physical training at all?—Yes, it is really a matter of time more than anything else.

12,228. But that is the case?—Yes. The athletic club has a membership of 350, and the volunteer corps have about 352; that is 702, and of course the one includes many members of the other. There are between

2000 and 3000 matriculated students. That includes a lot of law students who come up for one class, but there are about 2000 students.

12,229. But if there were more opportunities close at hand, more people would claim the advantage?—Yes.

12,230. *By Mr Fergusson.*—Do you think that if any system of physical training was made compulsory at the University it would be very unpopular; would it be possible at all to find time?—I think it would be a very difficult matter in this way, that universities differ from schools in that you have not a time-table which the fellows in one year all follow, because one man will go to one class, an extra-mural class, and this lecturer has his tutorials at one hour, whereas another lecturer will have his tutorials at a different hour or on a different day of the week. The fellows in my year have not all the same programme, and not all the same spare time. I hope I have made it clear.

12,231. It would be like another subject that you were taking up, and you could fit it in just when you could; they would not all do it together. Would there be any difficulty about it, or would it be very unpopular?—I expect that to the great majority it would be unpopular.

12,232. Do you think it would be no use?—I think it would.

12,233. *By Mr Shaw Stewart.*—As regards boxing and fencing, is there a qualified instructor?—Yes.

12,234. May we take it that you speak on behalf of a large number of students in giving your evidence. Have you been selected as a typical student of your year?—I don't know, I am sure.

12,235. At any rate your views are probably shared by a large number of your fellow students?—A certain number. I have not discussed this question.

12,236. But I was going to ask you whether you don't think that a University career is not incomplete without gymnastic opportunities?—I certainly think it is incomplete without a proper opportunity for physical training, whether it is gymnastics or more outdoor exercise. It is incomplete, because there are any number of fellows who break down during their course.

12,237. And a great many students would agree with you in that?—Yes, certainly.

12,238. There would be no objection to a uniform system, and equal facilities in all universities?—No, I don't think so; I think there ought to be some facilities.

12,239. To make physical as well as mental training in Scotch universities possible, there ought to be well-equipped gymnasia and a swimming bath at each?—I think it would be a great thing.

12,240. To make it complete?—Yes.

12,241. *By Sir Henry Craik.*—You say that about 400 or 450 out of the 2000 cover the whole number of students who take an interest in athletic exercises or volunteering?—Well, I should have qualified that, because up here we have other clubs, like old former pupil clubs belonging to the Academy and High School and Watson's, and a lot of students who, instead of playing for the University, play for these clubs.

12,242. And do they not belong to the athletic club?—No, they have no connection with the club at all.

12,243. That is a great pity, is it not, for the *esprit de corps* of the University?—Yes, certainly.

12,244. Is the subscription to this athletic club heavy?—No, it is 5s. to the club itself, and each section has its own subscription. The Rugby football is 7s. 6d., and so is the Association; the cricket is a guinea; tennis is a guinea, I think; hockey, 7s. 6d.; the boating, a guinea; hare and hounds, 2s. 6d.; boxing and fencing, 5s.; and golf, 2s. 6d.

12,245. They are very small?—Yes.

12,246. Do you think that, taking the large number who don't take any interest in these games, many are deterred by those subscriptions?—No, I think there are very few.

12,247. Do you think that those who don't take part in these games are the poorer class of students?—No, I don't think so.

12,248. You say that you find many who, for want of such opportunities or otherwise, break down in the course of their career?—Yes, several. I don't know the proportion, but I know that several friends of my own of late have been very ill—with consumption, and things like that. Students: ill health: want of time for exercise.

12,249. I am asking whether your experience is the same as my own many years ago, that it is very often the case that many of these are ignorant of the way of taking care of themselves and quite ignorant of health rules?—Several may be, but in the case of a great majority it is a question of time, because they have such a lot to get in in their session that they have no time for exercise.

12,250. And perhaps some live in not very airy lodgings; but, on the whole, do you think they have plenty of food?—Yes.

12,251. Even the poorest of them?—Yes, but, of course, I don't know about that. There is one thing, that fellows are rushed so much going to classes that they have to bolt their meals. In the middle of the day one gets out of the Infirmary at half-past one and has to be at a lecture at two o'clock, and when one has to go across to the Union and wash and have lunch, there is not much time left. Food: students and their meals: want of time.

12,252. You don't think, on the whole, that there is much injury done by undergraduates getting into bad ways; do you think billiards is the best occupation for them?—It depends upon how much one plays.

12,253. It is better that he should play in the Union than go to a public-house?—Yes.

12,254. Then the beagling is separate?—Yes. Beagling.

12,255. It is more select?—Yes, it is more select. They have to keep up a pack of beagles.

12,256. Do they get permission in the neighbourhood to hunt?—I think they do, as a rule.

12,257. But that touches a very small number?—Yes.

12,258. Amongst your contemporaries, are there many students who are thinking of taking commissions as officers in the army as their future career?—I am a medical, and know very few of the others, so that I cannot speak to that.

12,259. Are there many preparing for the Army Medical Corps?—Yes, a fair number.

12,260. And do they get any special training that would suit them for that?—No.

12,261. Do you think it would be useful to those preparing for the Army Medical Corps that the University could help them in the way of exercise in their future career?—I am afraid I don't know enough about the Army Medical Corps to be able to answer that.

12,262. *By the Hon. Thomas Cochrane.*—I would like to know a little more about the students who break down; do many break down?—Looking back among the fellows that I have known, I cannot think of more than seven or eight out of 200 or 300.

12,263. They have broken down in health?—Yes. Health: breakdown of students: physical exercise unnecessary.

12,264. Were they unable to keep up the strain of the hard work?—Yes.

12,265. Do you think physical exercise would help them to bear the strain?—Yes, I think so, undoubtedly.

12,266. Do you think that they were the ones who took an interest in athletics, or entirely book-worms?—The ones that I knew were mostly fellows who did not take much interest in exercise. I know of one who said that he took no exercise at all, that most of his time was spent at the University, and walking to it and walking home.

12,267. He gave himself up to his work altogether?—Yes.

12,268. Do you think that is typical of a good many young fellows?—Yes, there is a fair proportion who don't take exercise.

12,269. Is that partly due to the want of facilities?—Yes, and time; time is the great thing. Want of time and facilities.

12,270. And over-pressure?—Yes.

12,271. Do you think that if facilities were given to the University, the students would be able to avail themselves of them?—Yes.

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12,272. Do they play fives?—Up here a great many don't play fives, but they would learn.

12,273. It is very much the same all over the world—that people would take advantage of athletics if they got the chance?—Yes. A fellow has not time to keep himself in good training. They may not object to have exercise on a Saturday afternoon, but they have no time during the week to keep in good condition.

University authorities should institute course of exercise and grant facilities.

12,274. It rather points to the fact that if the University authorities were to bring some pressure to bear to make all take a short amount of physical exercise every day, it would be an advantage?—Yes. I don't know if it would be advisable to make it compulsory.

12,275. It would be rather to give facilities?—Yes.

12,276. But only some would not exercise themselves at all?—Yes, even if they had facilities.

12,277. *By the Chairman.*—Is there anything else that you think of to put before us?—No.

12,278. Do you know anything about country life yourself?—Yes, I have been camping out in the north.

12,279. Where do you live in the country, as a rule?—I live in Edinburgh itself.

Want of time: over-pressure

12,280. *By Mr Fergusson.*—As to this want of time that you put as the root of most of your trouble, could not something be done if the University authorities made arrangements and organised the work a little more—couldn't you then get time for a little exercise and time to have your food properly, if these lectures were arranged on some sort of system?—There was a Commission about two years ago, composed of lecturers and students, and they thrashed the matter out, and made several suggestions to the Senatus, or whoever has to do with the order of the classes, but I don't think many of them were adopted. The classes have to be got in somehow. There is a number of classes that we must take, and they have to be got in, and it is a question of time, and not so much of what might be called bad management, in not putting them in properly. It is really a question of time.

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12,281. You mean that you are occupied the whole day?—Say the whole forenoon from nine to half-past one, and perhaps on some days from two till five, and then the infirmary in the evening again, and you have to get in some reading after that.

12,282. Did this Commission result in anything satisfactory?—They made several suggestions as to the order of classes.

12,283. They thought that something might be done?—Yes.

12,284. But did they not do anything?—No, the Senatus did not think that the suggestions were any good.

The witness withdrew.

Adjourned.

TWENTY-FIFTH DAY.

Tuesday, 30th September 1902.

At the City Chambers, Glasgow.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

Sir THOMAS GLEN COATS, Bart.	Mr J. C. ALSTON.
Sir HENRY CRAIK, K.C.B.	Mr J. B. FERGUSSON.
Mr M. H. SHAW STEWART, M.P.	Mr GEORGE M'CRAE, M.P.

Mr R. B. PEARSON, *Secretary.*

Prof. F. O. Bower, F.R.S.
30 Sept. '02.

Professor F. O. BOWER, F.R.S., examined.

12,285. *By the Chairman.*—Will you kindly describe your position, so that we may get it recorded in the evidence?—I am Regius Professor of Botany in the University of Glasgow. I was for a number of years honorary president of the athletic club in the University of Glasgow.

12,286. How long have you been Professor at Glasgow University?—Nearly eighteen years.

12,287. Do you still act as president of the athletic society?—No; I went off in rotation some years ago.

12,288. You still take an interest in it?—Yes.

Glasgow University.

12,289. Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.*, football, cricket, hockey, etc. (1) Are they organised and supervised by masters? (2) What is the size of the playing field, and its distance from the University?

(*b*) Drill: how taught, and by whom? Gymnastics, free or applied? Is there a gymnasium attached to the University?

(*c*) Athletics, *e.g.*, jumping, running, etc.

(*d*) Handicrafts.

(*e*) Voice training.

(*f*) Cadet corps, rifle shooting.

(*g*) Swimming. Is there a swimming bath attached to the school?

(*h*) Fire brigade corps.

(*i*) First aid and ambulance.

(*a*) There is one ground for Rugby football or cricket, one ground (rented) for association football; none for hockey or other games. A running and cycling track is laid down round the Rugby ground; two fives courts exist.

Games: organisation.

(1) The games are not organised or supervised by the University authorities, beyond the fact that the ground is held by the University Athletic Club from the University Court, and ultimately subject to its control, and the honorary president of the club is always a professor.

Playing field

(2) The playing field is just large enough for a Rugby pitch, with tracks round it, and is contiguous to the University buildings. But as part of it is shortly to be used as a building site, it will not be available long for athletic purposes. The association ground is

rented on a short term, and as the finances of the association club have not been flourishing, it is not certain that the tenure can be extended. The University Athletic Club has been in existence for over twenty years. It holds the ground rent free from the University, under an agreement originally with the Senate, now with the University Court. The club has spent considerable sums on levelling and draining, etc. It may be expected that when the University Court finds it necessary to resume occupancy, it will offer compensation proportional to the sums spent. During the time I was president, considerable sums of money came into our hands, and were spent on the University ground and on building a pavilion. The total sum came to about £2000. As far as I remember, about £1250 came from the Students' Union Bazaar, and £300 came from the first Glasgow Exhibition for the use of our ground. The money was spent chiefly on levelling, which was extremely expensive, as being heavy boulder clay, on building a pavilion which has since been removed, and on laying down tennis courts, and so forth.

(*b*) There is no drill of any sort connected with the University, excepting that of the University Company of the Royal Army Medical Corps.

Gymnastics are taught in the gymnasium by an instructor appointed by the Gymnasium Committee, which always includes some of the professors. Students pay moderate fees for the courses of instruction. The gymnasium was built by subscription on University ground close to the College; it is managed by a committee composed of students, with two or three professors.

(*c*) Athletics are practised intermittently, but only by very few students, mostly just before the annual athletic meeting. But for the competitions, only very few students enter.

(*d*) None.

(*e*) Musical societies have existed, but none is in active life.

(*f*) None.

Rifle Volunteer Corps.—None.

One company of Royal Army Medical Corps is recruited mostly or entirely from University students.

(*g*) Swimming is not practised about the University; there is no swimming bath.

(*h*) None.

(*i*) None, I believe.

12,290. What time is allotted to these or any of them *per diem* and per week? Are any of these taken in ordinary University time?—No time *per diem* is set apart for any athletic or other exercises.

12,291. How far are the existing opportunities taken advantage of? Give numbers approximately under the various heads?—It is difficult to answer the question as to numbers with any degree of precision. The number could readily be obtained from the secretaries of the Gymnasium Athletic Club, or officers of the Royal Army Medical Corps, etc. But I am sure I am correct in saying that of our total number of students (1500 to 2000), barely 10 per cent. take part in any athletic exercises organised in connection with the University. Many, doubtless, belong to Volunteer corps or athletic clubs elsewhere. But the clubs, etc., about the University are in frequent financial difficulties, and secure the adherence of only a very small number. They are, however, open to all.

I have had information from the athletic club and the gymnasium. The numbers are only stated approximately for the athletic club. In 1900–1 the number approximately was 200; in 1901–2 it was 150. That is out of a total of 2000 students. There seems to have been a falling-off this last year. The students on the roll in the gymnasium number from 30 to 40, and non-students about 12. I think that number must be understated. The boxing class numbers about 12, and there is a class of about 9 Queen Margaret ladies, making about 70 in all. These numbers do not exactly tally with the financial statement which I received this morning. The students' fees are £1 per session, the non-students' fees are £1, 10s., and on that basis the receipts for the last ten years have averaged in students' fees about £46, non-students' fees about £40, and other items, including interest on investments, bring up the income to about £140 per annum. So it is seen that the 10 per cent. I have stated is about right; it is rather above the actual fact.

Organisation.

12,292. What organisation exists for the promotion of physical training in any form in the University?—There is no organisation for the promotion of physical training in any form in the University beyond those mentioned.

No system.

12,293. What, in your opinion, are the defects of the system?—The defect of the system is its entire absence.

Suggestions: games: necessary to arouse students' interest.

12,293A. What remedies or suggestions have you to propose? Should there be any form of compulsion?—In making suggestions, it will be necessary first to distinguish between exercises which are purely of the nature of sport and those which are not. A student should not in my opinion have his amusements supplied gratis, and accordingly I should not advocate any State aid for University games or athletics. I see no way of increasing the attention which the Glasgow student gives to games, except by increasing his love of them, and his willingness to pay for them, and give time to the pursuit of them. I see no ready way of influencing the tastes of students in this direction. His abstention is largely due to the cost of the games, and to the mistaken idea, so often entertained, that time devoted to outdoor exercise is time wasted, or diverted from more important matters. I do not think that Government intervention can be properly asked as regards games, unless it be in the provision of suitable *ground*. In Glasgow the question of an athletic ground for the University will soon become an acute one, and I hope that the Commission will give this their careful attention. Part of the ground at the University is just about to be used as a building site, which will make the remaining ground insufficient for football purposes. The existence of the athletic club in close proximity to the University is therefore threatened. As the Rugby football has been the most successful section, they will have to seek ground elsewhere. I hope that when the ground is occupied, the University authorities may see their way to repay something equivalent to the sums spent on the ground by the club.

Present playing field in danger.

Gymnastics and drill: inducements should be offered; qualifying classes.

But in gymnastics and physical drill I think matters are different, these not being of the nature of mere amusements; to secure that these shall be adequately taught in schools they should be taught to the masters. A considerable number of our students pass, by examinations which are under Government control, into the ranks of schoolmasters. It would be possible, without making it compulsory, to offer *inducements* to them to qualify in the teaching and practice of physical drill and gymnastics. By treating these as optional subjects, for the qualifying examination, and assigning to them a sufficient proportion of marks, a large attendance at classes might be secured. The courses by which such marks are to be earned would have to be under proper instruction and control, and the marks be assigned partly for regular attendance at a full course of physical drill (or gymnastics or both), partly for proficiency shown at its close, partly for proficiency in teaching the exercises to others.

These qualifying classes should be open to all students, who might be trained together with those who are preparing for the scholastic profession.

To carry this into effect, the University gymnasium would have to be under Government control, directly or indirectly, with a duly qualified instructor, and supported financially. I do not anticipate that serious obstacles would be found to this proposal on the side of the University.

Compulsion undesirable.

I certainly think that an obligatory period of drill in the open air for all students daily would be desirable, and a great benefit to them physically, but I doubt whether it would be wise to impose it at present.

Medical examination advocated.

12,294. Do you think a medical examination of students from time to time necessary, with a view of development of physical training?—I think a medical

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examination of students, from time to time, would be a most useful thing, not only for information of the authorities as to their condition, but for the instruction of the students themselves. Many young men grow up without any idea of their own weak points, or how their health might be strengthened and improved by measures which a medical inspector would easily suggest. Within the last few days an example has come before me of an undergraduate (not of this University) who thought that he was suffering from his liver, and took active exercise to correct it, while all the time he was actually suffering from his heart, and, of course, active exercise was the worst thing possible for that.

12,295. Generally, what suggestions or proposals have you to make regarding physical training in the Scotch Universities?—My chief suggestion, which I have already stated, is to take over the gymnasium as a school for gymnastics and physical drill. As far as I can form an opinion, the University authorities would, I believe, welcome any attempt to better the physical condition of the students. At present especially they would, I believe, do so in Glasgow, as it will be necessary shortly to restrict the athletic ground, if not even withdraw it from the use of the athletic club. Individually, many of the professors have felt that too little is done for the physical improvement of the student. I have myself noted the prevalent poor physique, want of colour, and other evidences of lack of physical exercise. More than anything else I am impressed with their *bad teeth*; the proportion of first year's students (mostly sixteen to twenty years) with good front teeth is very small. Of that proportion I find that the Colonial students are generally the best. The significance of this in general health is too obvious to need insistence. I doubt whether anything short of compulsion will make certain of the Scotch students take time from their work for physical culture, and compulsion would make it so distasteful to others as to rob it of much of its benefit.

University training: organisation necessary: poor physique of students.

12,296. *By Sir Henry Craik.*—I think you have had experience elsewhere than in Glasgow?—Yes, I was in my football team in school.

12,297. Which school?—Repton.

12,298. Were you in an English university?—Yes, Cambridge.

Scotch and English students.

12,299. How does the physical condition of the Scottish students compare with that of the students you saw in England?—I should say that the frame of the average Scottish student is a good one, but not properly developed.

12,300. From what class of students do the 10 per cent. that you refer to as taking part in athletic exercises come?—I could not specify that. I think, as a rule, they will be the better-to-do students.

12,301. Students who have had opportunities before of physical exercise?—Yes; students from the public schools.

12,302. Those who most need it and have not had any opportunities before are precisely those who neglect physical exercise when they come to the university?—Yes.

Students: difficulties: expense; want of time.

12,303. In the case of the poorer students from the country, the expense is a deterrent?—Yes. The subscription in the gymnasium is £1 for the session, and that is a considerable deterrent. The subscription for the athletic club and for Rugby football comes to 10s.

12,304. Small as the sum is, you think that it is a deterrent?—Yes.

12,305. Then there is the pressure of time?—I think that that is the chief deterrent. The student has so serious a view of making the best of his time at the university that he will give too many hours a day for the cultivation of his mind at the expense of his body.

Health.

12,306. Have you seen many cases of a breakdown in health?—I have seen cases, but I could not say that it was a very large proportion. I was very much impressed when I first came with the condition of the students, which seemed to be worse at the end of the session than at the beginning. I remember that impressing itself on me very clearly when I first came.

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12,307. Do the students who are preparing to be teachers represent a good class of students in point of physical development?—I am frequently not aware which are the teacher students and which are not, so that I should find it difficult to answer your question. I should say that from the few isolated cases I know the teachers are quite a fair average.

12,308. They don't give very much attention to physical exercise during the university course?—No.

Commission in army: systematic training for students would be beneficial.

12,309. Are you aware whether there are many in Glasgow University who are preparing to be officers in the army?—I should say that only a small proportion of our students are studying with a view to the army.

12,310. You are aware that the recent Commission on Military Education took up the question of the university training of officers?—Yes.

12,311. Was that considered by the University of Glasgow?—I don't think that it was considered with relation to any athletic exercises. I am not aware of the matter having been brought up.

12,312. Do you think that the university might with advantage train officers for the army if they had opportunities for physical exercise and physical training?—Yes.

12,313. These men would be a very valuable adjunct?—Yes.

12,314. You are aware that there are commissions in the army open to students?—Yes.

12,315. A very small number, however, come from Glasgow?—That is so.

Want of time: arrangement of classes.

12,316. *By Mr Alston.*—It is not apathy towards physical training that troubles the students, but the feeling that they have no time?—That is so. They take their duties so seriously that they are slow to sacrifice any time to physical culture.

12,317. No arrangement of the professors' classes could obviate that difficulty?—Our classes are dovetailed in to such an extent that it would dislocate a very large and complex machine. Arrangements would have to be made so as to take the students when they could come.

Future teachers might be instructed by experts under some Government control.

12,318. We had similar evidence in Edinburgh. You make the remark that to secure the full advantages you would have physical drill and gymnastics taught in the schools by the masters. Of course you are aware that in many cases they are taught by ex-army sergeants or other experts. Would you advocate teaching by the masters in the Board Schools?—What I would advocate would be having one of those Government instructors in the university so as to teach the masters before they left the university.

12,319. When would they get time for this class?—The great overcrowding of classes is rather on the medical and scientific sides than on the arts side. The arts students would find time much more easily than the other students, and the great proportion of those studying for the teaching profession are on the arts side.

12,320. You think that future masters might be instructed in physical training?—Yes, I think that might be done.

12,321. They might be taught by an expert appointed by the Government or some other authority?—Yes, and under some Government control.

Volunteering: University corps: not exclusively students.

12,322. *By Mr M'Crae.*—You say that you have no volunteer corps in connection with the University apart from the corps of the Royal Army Medical Corps. Does that mean that you have not even a volunteer company attached to a Glasgow corps the same as they have in Edinburgh?—There is one company of the 1st Lanark which is called the University Corps, but I doubt whether it is kept exclusively for University students.

12,323. But it is recognised as the University Company?—Yes.

12,324. You could not give us any idea as to how many of the students are volunteers?—No.

Rifle club: small membership.

12,325. Of course that is an important form of physical training which the students would receive?—Yes In this connection I might add that there is a

rifle club for the cultivation of match shooting, but the numbers are exceedingly small. I believe that it is a successful and meritorious body so far as it goes, but it only affects a small number of the students.

12,326. So far as you know, that University Company is not confined exclusively to university students?—I am not sure on that point.

12,327. It is rather an important point if they have a company entirely confined to the students?—I believe it is not confined to the students. It is more a nominal connection than a close connection.

12,328. They are very keen on volunteering in the West. I am surprised that the University has not developed that side of training?—I think that the keenness of volunteering in the West has brought about such convenient opportunities for the students that they don't require to start a corps of their own.

12,329. Of course there is a difference between a corps and a company?—Yes.

12,330. *By Sir Thomas Glen Coats.*—I suppose quite a number of the students have had a certain amount of physical training in school before they go to the University?—Yes, chiefly those coming from well-established public schools, as they would be called in England.

12,331. And they will have had a little of it even in the Board Schools?—Yes, but I should think they would have less opportunities than in the public schools.

12,332. That being the case, do you think that if opportunity was given for physical training and for gymnastic training a great many more would take advantage of it than do at present? I think you say that barely 10 per cent. take part in athletic exercises?—I think that if the way was smoothed for them, and especially if such inducements as I have mentioned were offered for those entering the scholastic profession, there would be a very considerable increase in the number taking part in the gymnasium exercises. I don't know about the games.

12,333. You don't think it would be practicable to make physical training part of the university course?—I should be glad to see it myself, but I think the feeling would be one of distaste if it was made compulsory.

12,334. Are there not a great number of students who would benefit most by athletic exercises who would not take such exercises unless they were compelled to do so?—I think a very large proportion would not take them unless they were compelled to do so.

12,335. So you could not benefit them unless you made the exercises compulsory?—There would be a difficulty without compulsion.

12,336. *By Mr Shaw Stewart.*—Do you think that if there was a swimming bath the students might be induced to take advantage of it?—I think it would be taken very largely advantage of. There was a swimming section of the athletic club which had arrangements with one of the public baths for swimming and doing a certain amount of gymnastics. I think that such a thing would be very largely taken advantage of.

12,337. If there were facilities for fencing, would they be taken advantage of?—That is an exercise which I enjoy and admire myself, but I don't think that it would gain a very great hold on the students. I think that boxing would probably take a good deal more hold.

12,338. In either of those they get a great deal of exercise in a short time?—Yes.

12,339. Do you think that if there was a recommendation from this Commission advocating increased physical training, that would lead to more attention being paid to physical training in the university?—Yes, I think so.

12,340. *By Mr Fergusson.*—Is the gymnasium in the Glasgow University a good one?—It is a very well-arranged gymnasium indeed.

12,341. It is well equipped?—Yes, and well kept up.

12,342. Is that all done at the expense of the University?—No. The gymnasium was built by subscription.

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12,343. And were the furnishings and appliances supplied by subscription?—Yes.

12,344. Do the University do anything to furnish means for giving physical exercise of any kind to the students?—I think not.

No facilities furnished by University.

12,345. They have not supplied a swimming bath or a gymnasium or anything?—I think not, beyond having allowed the gymnasium to be built on University ground, and giving the athletic ground rent free.

12,346. The University, far from encouraging physical exercise of any kind, are doing their best to discourage that, because they are building over the only ground that you have for practising athletics on?—I would hardly put it that way. Owing to the stress of circumstances we have had to find a site for additional buildings, and that site, unfortunately, is on the University ground.

12,347. You were at Cambridge and so was I. You cannot conceive of the authorities building over the cricket or football grounds there?—No, but Cambridge is Cambridge and Glasgow is Glasgow.

12,348. You say that students think that time spent on physical training is time wasted. Do you think that it is time wasted?—No.

12,349. The University authorities apparently think that it is?—No.

12,350. Why don't they do something to foster physical exercise?—There are reasons for that, and the first reason is that we would find a difficulty in financing the matter. The University of Glasgow is living closely up to its income in doing its duty, which is the duty of providing education. Another reason is the difficulty as to time; we have the classes so spliced in that the arrangement of definite hours would be a matter of extreme difficulty.

No encouragement by University authorities owing to want of money and time.

12,351. You don't favour physical exercise so far as to say that it is a necessity?—Personally I do.

12,352. So your University is neglecting what you consider to be one of the necessities of education. We have been told that the great difficulty is time. It was put to us that, far from having any extra time for physical exercises, there was not even time for the students to take their meals, as they had to run from one lecture to another. Surely there must be something wrong in a system such as that for young lads, where arrangements cannot be made even to let them have their food properly. Can you imagine anything worse?—No. I have seen cases where the students have not been able to get their meals at proper hours, and I deplore that such a thing should be. One reason that has led to that is, I think, the necessity for economy; in order to get the university course in within the minimum of time, their classes are taken very closely together.

12,353. That is what I am coming to. Is not one of the great faults the short length of the session? If you had a longer session you could reduce the pressure. What is the length of your session?—I think there is a mistaken idea involved here, not distinguishing between the arts session and the university sessions. The arts classes usually meet during the winter session, extending to twenty weeks, and the classes in the summer session are largely optional, but in the faculties of science and medicine they have a winter session of twenty weeks, and a summer session of ten weeks. If you total up all the actual days of teaching done by a Scotch professor on the medical or science side, and compare the number with those in Oxford or Cambridge, I think you will find that the number of days on which he teaches is larger than in Cambridge or Oxford.

Length of session: Arts classes meet during winter for 20 weeks; classes in summer optional. Science and medicine classes meet during winter for 20 weeks; 10 weeks in summer.

12,354. But the number of days that the student is at the college is not so large?—I think you will find that the actual university terms work out less in Oxford and Cambridge than in Glasgow.

12,355. Is that really so?—I think so. If you look into the matter, I am sure that you will find that that is so.

12,356. At any rate, we have got it that you have

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twenty weeks in winter and ten weeks in summer?—That is so, for the students in medicine and science.

12,357. The students have to attend thirty weeks in order to qualify?—Yes.

12,358. That is the minimum for keeping their terms, or whatever the equivalent is, in Scotland?—Yes.

Games and physical exercises: financial assistance.

12,359. *By the Chairman.*—When you say that in Glasgow the question of an athletic ground will soon become an acute one, and that you hope this Commission will give the matter their careful attention, do you mean that you are pleading *in forma pauperis*, and you hope for a grant?—Yes, any way in which Government assistance could enable us to have a satisfactory ground with permanent tenure for athletic purposes, not necessarily contiguous to the University, but perhaps away out at Anniesland—any such assistance would be most important; it would be perhaps the most important way in which physical exercise could be encouraged.

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12,360. From what I understood you to say just now, you rather suggest that the University itself would be unable to do it?—I think the University Court ought at all events to pay such sums as would be approximately equivalent to what the athletic club has spent on this ground, so that the club would have a certain sum to start with, but that sum would be insufficient for securing ground where land is so expensive.

12,361. That rather contradicts your statement, when you say that the student should not have his amusement gratis?—He will have to run his games himself, but there will be this assistance.

12,362. Physical exercise, of course, is not amusement, but is instruction?—That is so.

The witness withdrew.

Mr H. J. Spenser, LL.D.

Mr H. J. Spenser, LL.D., examined.

Mr H. Spens LL.D.

12,363. *By the Chairman.*—You are Rector of the High School of Glasgow?—Yes, I have been so since 1901.

12,364. You have prepared a statement of evidence, which we have gone over very carefully?—Yes.

I. School and University Training.—School—

The High School, Nottingham (Senior Prefect and Games' Secretary, 1882–1884).

College—

St John's College (1884–1889).

University—

Cambridge (1884–1889).

Experience. — 1889–1894. — Senior Classical Assistant and Resident House-Master at Woodbridge Grammar School, and at the College, Inverness.

1895.—Headmaster's Assistant to Dr Gow (now Headmaster of Westminster School), at the High School, Nottingham.

1896–1900.—Classical Master at the Edinburgh Academy.

January 1901—present time.—Rector of the High School of Glasgow.

II. Status of the High School of Glasgow.—(*a*) In 1872, by the Education (Scotland) Act, the school was constituted one of the eleven Higher Class Public Schools in Scotland, and transferred from the management of the Town Council to that of the School Board.

The fees vary from £6, 15*s.* per annum in Form I. to £8, 5*s.* per annum in Form VI. in the senior school. Fees in the junior school amount to £5, 5*s.* per annum.

In accordance with the scheme of the Burgh Committee on Secondary Education there are sixty scholarships. These are of the same amount as the school fees, and are tenable for three years. This session there are forty-five bursars holding bursaries under various trusts and societies. The pupils are drawn from all classes of society.

(*b*) The total number of pupils on the rolls this session was 928 on the 10th September. The ages of pupils vary from six to nineteen years.

(*Note.*—The school period varies from forty to fifty minutes.)

Games: part of curriculum.

III. Existing opportunities of Physical Training.—(*a*) The regular games are Rugby football and cricket. These are now recognised by the Board as forming part of the regular school curriculum. The games take place during the last period on Wednesday afternoons (for seniors), and during the last period on Thursday (for juniors and 'Geits'). The games are not compulsory, but parents are strongly recommended to allow their boys to join the clubs. The subscriptions are 5*s.* for members of the first and second fifteens, and 3*s.* 6*d.* for ordinary members. The subscription to the cricket club is 2*s.* 6*d.* For those who do not take part in the games, alternatives, in some cases at a moderate fee, are provided in the shape of—

Alternatives.

(1) Extra lessons in the subjects noted in the reports as weak (or in shorthand): or

(2) Ambulance and 'first-aid' lectures or

(3) Drill: or

(4) Music: or

(5) Swimming.

Matches, or practice games, in football and cricket (according to the season) are arranged for all members of the clubs on Saturdays. Occasional cricket matches are played through the week after school hours.

(1) The games are organised and supervised by the rector and the committee of the former pupils. Organisat

Football Club.—Several of the masters take an interest in the games and act in official capacities. The games are conducted and controlled by a committee of the boys themselves acting under a constitution contained in the 'Customs.' From time to time this committee submits to the rector such rules as are found necessary. Subject to his approval these rules are issued in printed form.

(2) The school has no playing field. For football last season three full pitches (of 110 yards × 75 yards each) were rented from the Glasgow Agricultural Society in the show ground at Whiteinch. The ground is distant fully three miles from the school. Boys go down by train from Charing Cross Station (single fare 2*d.*) or by tram (fare 1½*d.*). No school playing fi

For cricket last season practice ground and pitches were rented from the West of Scotland Cricket Club at Hamilton Crescent, which is distant about two miles from the school.

The rent of football and cricket grounds amounted to £60, toward which the School Board granted £30.

(*b*) Drill—including gymnastics, free and applied—is taught to every form in the school for two periods per week. This includes the preparatory and the junior and senior schools. There is a fully-equipped gymnasium, with a drill hall of the same size directly beneath it. There are two fully-qualified instructors who have served in the army. Drill. Gymnasium

(*c*) Athletics (running, jumping, etc.), are practised after school hours from March till May, when the school sports take place. The 'coaching' is done by masters and former pupils. Athletics.

(*d*) School runs in carefully regulated 'packs,' corresponding to the practices, are arranged for during the football season, whenever the state of the ground renders football impossible. School runs

(*e*) Handicrafts.—Manual instruction in woodwork forms part of the regular curriculum of the fourth form on the 'scientific' side. Handicrafts

(*f*) Voice training.—Singing for one period per week is part of the regular curricula of the preparatory classes, of the junior school, and of the first forms (Latin and 'non-Latin' sides) of the senior school. Voice training.

The school choir (voluntary: subscription, 2*s.* 6*d.*) meets on Tuesdays from 3.35 to 4.35 p.m., and on Fridays from 3.35 to 4.35 p.m.; on the same day for combined practice with the former pupils from 5.30 to 6.30 p.m. There is an annual concert in April.

(*g*) The cadet corps (supported by voluntary Cadet corps.

subscriptions and small fixed subscriptions from the members) meets for drill on Mondays and Thursdays from 3.45 to 4.45 p.m., with extra drills and parades as ordered. The captain and officers are masters of the school.

Morris-tube practice is taken in the First Lanark Rifle Volunteers' Drill Hall, and rifle shooting at the Darnley range, which is about six miles distant from the school.

(*h*) Swimming is recognised by the Board as an alternative part of the regular school curriculum for all forms during the last period on Wednesday afternoons in the summer term. A small fee is paid. Beyond this there is a swimming club, organised and conducted by masters of the school and a committee of the boys. There is no swimming bath attached to the school. An arrangement is made with the manager of the Western Baths, Hillhead, distant about 1½ miles from the school, by which the use of the bath is obtained at much reduced fees. There is an annual swimming gala in June.

(*i*) There is no fire brigade corps.

(*j*) 'First aid and ambulance' lectures are recognised by the Board as an alternative part of the regular curriculum of the senior school during the last period on Wednesday afternoons. A moderate fee is paid.

In addition to the above agencies there are—

(*k*) A cycling club.

(*l*) A photographic society.

(*m*) A golf club.

(*n*) A boxing club.

(*o*) An orchestral society.

(These are voluntary, and out of school hours. There are small subscriptions.)

(*p*) Botanical excursions.—These form part of the regular science curriculum and take place in school hours.

IV. Wherever the above agencies form part of the regular school curriculum, the fact and the time devoted have been noted.

The 'extra school' means of recreation are set forth in the afternoon and Saturday programme (according to the season).

Monday, 3.45 to 4.45 p.m.—
- (i) Cadet Corps' Drill.
- (ii) Boxing Club (juniors).

Tuesday, 3.35 to 4.35 p.m.—
- (i) Choir Practice for Trebles and Altos.
- (ii) Orchestral Society's Practice.
- (iii) Bass Practice.
- (iv) Swimming Club.

Wednesday, 2.40 to 4 p.m.—
- (i) Football: First, Second, and Third Practices at Whiteinch.
- (ii) Cricket at Hamilton Crescent.

Thursday, 2.20 to 4 p.m.—
- (i) Football: 'Geits'' Practice at Whiteinch.

Thursday, 3.45 to 4.45 p.m.—
- (ii) Cadet Corps' Drill.

Friday, 3.45 to 4.45 p.m.—
- (i) Literary and Debating Society.
- (ii) Choir Practice for Trebles and Altos.
- (iii) Bass Practice.
- (iv) Swimming Club.
- (v) Boxing Club (seniors).

Friday, 5 p.m.—
- Tea for Choir.

Friday, 5.30 to 6.30 p.m.—
- Combined Practice of Present and Former Pupils Musical Society.

Saturday—
- Football or Cricket: Matches or Practice Games as arranged. Golf, as arranged by the Club. Cycling Club Run.

V. The respective merits and relative values of the various forms of Physical Training. — Physical training in schools should be directed to secure the health, vigour, and all-round development of the pupils. The limitations of such training are well defined by Mr C. B. Fry in a recently-published manual on *Diet and Exercise for Training*, pp. 7 and 8: 'The truth is, there are two sorts of training; the 'one general, having for its object merely general "good '"condition," a sound muscular system, a sound strong 'heart, and a "good wind"; the other special, having for 'its object the attainment of the maximum of proficiency 'in the special line chosen—rowing, running, boxing, or 'whatever it may be.'

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The new system of military training, which includes free gymnastics and the new drill, appears to me exceedingly well calculated to achieve the objects enumerated above.

Games — football, cricket, etc., and athletics— *properly organized and conducted* (and on both these qualifications great stress must be laid), constitute most valuable adjuncts to the physical training given in school. Moreover, they have a definite social and moral effect on the school. They can be made to afford valuable lessons in organisation; they are played in the open air in proper costume; they give rise to an infinite variety of movements which follow each other in the most rapid succession, and they develop alertness, rapidity of decision, and executive power.

Games, if properly organised, are valuable supplement to regular training.

VI. How far are these opportunities taken advantage of?—As regards the High School of Glasgow, it must be remembered that, with the exception of the literary society and an informal football club numbering some thirty players, the clubs and societies detailed in the Saturday and afternoon programme have only been in operation during the past session.

Numbers taking advantage of opportunities.

Football club. Numbers (session 1901-2) — boys 161; former pupils, 75. Cricket club, 50. Swimming club, 140. Musical society, boys, 76; former pupils, 34. Orchestral society, 11. Cadet corps (two companies), 200.

The difficulties of extending the membership are chiefly those entailed by—

Difficulties.

- (i) The wide extent of the area from which the pupils are drawn.
- (ii) The expense involved alike for the club and the individual.
- (iii) The absence of tradition which would warrant educational agencies, the value of which is not yet generally recognised.

VII. The results of Physical Training.—The results in general being those defined in No. V., the particulars may be enumerated as—

Good results of training

- (1) Increased lung capacity.
- (2) Stimulation of the circulation.
- (3) Healthy action of the digestive and excretory organs.
- (4) Power of concentrating muscular effort.

VIII. The effects, moral, physical, and intellectual. General observations.—The effects are best seen in the products of schools where games and physical training have formed part of the regular curriculum for years past. So far as physique solely is concerned, the effects are unmistakable, and not to be attributed to differences of home influences, diet, or parentage. A notable instance in Scotland is afforded by the Edinburgh Academicals—the old boys of Edinburgh Academy. In this day-school of some 400 boys, games, as well as gymnastics, have been made compulsory during the last twelve years; the physique and vigour of the Academicals are remarkable. But, on the social and moral sides, the difference between the products of the school which teaches and the school which educates is more marked still. On the walls of Dulwich College is an eighteenth century portrait, bearing the legend, 'Athletic and Humane.' Taken seriously, as they were intended, these words would serve to describe a large and very valuable class of men in public life in Great Britain. These men have not forgotten the lessons of their youth, the unselfishness of combined endeavour, the chivalrous feeling that scorns to take an unfair advantage of an opponent, and the pluck that never knows defeat. The whole case for games has been admirably put by Miss Penelope Lawrence, Roedean School, Brighton: 'The national out-of-door games '. . . . combine with the primary training in obedience 'common to all games, the finest opportunity for healthy 'pleasurable exercise, for training in physical skill,

General effects —moral, physical, and intellectual. Combination of games and physical training beneficial.

Games: good effects.

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'courage, and endurance. In those games which involve 'large numbers, the constant necessity for the subordina-'tion of self to the good of the side, for perfect fair 'dealing with other players, for patience and cheerful-'ness under reverse, for resource in emergency, there is 'the finest field for the exercise of all the civic virtues.'

Games: advantage detailed.

Details of effects.—(i) Games supply exactly what is wanted at the particular stage of development; each individual exhibits in his growth and development the successive stages through which the race has passed in its evolution; the age of puberty corresponds to the age of chivalry. The interest which boys take in games, and the extent to which games bulk in their conversation, should not be deprecated on the ground of excess; this is simply a phase, and the topic of conversation is healthy because impersonal.

Lombroso writes that the intense admiration bestowed on proofs of physical force belongs to an early stage of civilisation, the 'chivalry' stage, in fact, of what Pestalozzi calls 'der Prozessgang der Natur in der 'Entwickelung des Menschengeschlechts.'

(ii) The health-giving movements occur spontaneously, and are not executed at the word of command. Games make less demand on the nervous system than drill; the tense, motionless state in which the word of command is awaited in drill is apt to be fatiguing.

(iii) All healthy growing boys are restless, and need a proper outlet for their energy. There is an intimate connection between physical good condition and good behaviour, moral and social. The connection was well expressed by the late Ernest Balfour (Edinburgh Academical), 'Keep good and fit—fit because good, '*and good because fit*,' and by Sir Archibald Hunter in his address to the High School boys on January 23rd, 1902, 'Be keen and keep clean' ('clean', morally and physically).

Every schoolmaster knows that between the ages of fourteen and eighteen a boy is either athletic and spruce, or non-athletic and unkempt, or, worse still, morbid, introspective, and precocious. ('Stalky & Co.' may be cited as examples of the piggish and grubby, and Canon Farrar's school boys of the morbid.) The tendency to disorderly conduct in the streets is reduced to a minimum in the case of boys who play games; no boy who wishes to keep his place in any XV. or XI. will smoke.

Organisation educationally valuable.

(iv) The organisation of the games can be made a most valuable educational instrument. The 'School 'Council,' or 'Prefects,' the 'Caps'' Committee, and the captains of practices exert a great influence over the school: to the boys they are masters, to the masters boys. Their example relieves good behaviour from the imputation of priggishness; they are consciously the guardians of the school's honour. But they cannot be left to themselves; they must be told definitely what is expected of them.

In this connection I cannot do better than quote Mr Lewis Paton, the headmaster of University College School, London, in the *Educational Times*, May 1st, 1902. ('The Feelings as a Factor in School Training'):—

'The school games, and all the organising work that 'they involve, serve also as a field for another instinctive 'feeling which is found, at any rate, in all vigorous 'specimens of boyhood. They want to manage things 'for themselves. With quite young children how fre-'quent it is to hear them say: "Now let me do it." "Let '"me try it by myself!" It is so all the way up, and 'school games, a cadet corps, athletic sports, and all 'the other branches of school activity, a debating 'society, a musical society, a chess club, a camera club, 'a scientific society, a school magazine, all afford 'splendid scope for this instinctive desire to manage. In 'fact, it is here that you find that training in citizen-'ship and affairs which you do find in English schools, 'and will scarcely find in others. Let it have scope; 'there may be hitches; there may be mismanagement, 'but in this, as in everything else, boys learn by 'making mistakes. As Mr Chesterton says, "What '"is worth doing at all is worth doing badly." The 'feeling for leadership is the counterpart of the feeling 'for comradeship. The one implies the other, and it is 'the boast of our English schools that in their sports 'and in their system of prefect government they have 'recognised both these natural instincts and utilised 'them for the purposes of the corporate life.'

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The Clubs and Societies.—'In connection with 'the School there are a number of clubs and societies, 'the primary object of which is to provide for the 'physical and mental recreation of present and 'former pupils. Their general value to the School 'can hardly be over-estimated; they furnish 'opportunities for masters, boys, and former pupils to 'meet within and without the School in friendly inter-'course on a common footing; they do much to estab-'lish the continuity of the School, and conserve its 'best traditions. The cadet corps and the football 'and cricket clubs, in particular, instil the notion of 'obligation into boys' minds at the most impressionable 'age.

'School societies, well organised and conducted, 'militate powerfully against carelessness and selfishness, 'and, more than any other factor, engender and develop '*esprit de corps*.

'Parents are urged to allow their boys to join some 'of the societies and clubs whose programmes are 'appended. In view of life, it is most desirable that 'a boy should acquire intellectual and artistic interest 'beyond those aroused by the subjects of the curriculum. '*A school training should not merely prepare a boy for 'his work in life; it should teach him the right use 'of leisure*.

'The tastes which are engendered by membership of 'these clubs and societies are not natural; they are acquired, and acquired best and most easily when the boy is young.'—*Ibid.*

Cadet co advanta

The Cadet Corps.—On national, as well as on moral, grounds I would strongly advocate the formation of cadet corps, or similar military organisations, wherever possible. The cadet corps possesses over mere gymnastics three advantages which it shares with the games—

(i) The movements are executed in the open air.
(ii) They are shared in by many boys simultaneously.
(iii) The excellence of the individual is regarded not in itself, but as conducing to the excellence of the corps.

The relations between the masters, who are officers, and boys, who are privates or non-commissioned officers, are very valuable in school life. The moral effect on the boys who are non-commissioned officers is admirable. The shooting practices, the scouting, the out-marches, and the 'roughing it' of camp life develop steadiness, self-reliance, and endurance. The distinctive uniform is a great point, particularly in a day school, where it is most desirable to multiply the points of association: the uniform gives the cadet a pride in the corps, and so in the school.

The new regulations for cadet corps—by which the amount of shooting practice is largely increased—are welcomed by all who sympathise with the movement.

(*Note.*—The officers of the cadet corps are placed at a disadvantage as compared with the officers of the Volunteer regiments, in that they get no 'outfit 'allowance.'

Equality of treatment in this case and a Government grant to the corps, dependent on efficiency and numbers, would do much to encourage the extension of the movement.)

Cadet co and 'militari

Militarism and the Military Spirit.—It is, perhaps, worth while to examine the objection which is sometimes raised against the institution of cadet corps as at present existing—viz., that cadet corps and kindred associations tend to foster 'militarism' or the 'military 'spirit.'

There are, I submit, two well-defined senses in which these terms can be used—

(i) To denote the glorification of the Army as it obtains abroad, in France in particular, as evidenced by the Dreyfus case, and similar cases where officers are

concerned. This state of mind is, apparently, due to constant nervous apprehension of invasion: it results in exaggerated importance attached, and respect paid, to military men: this universal obsequiousness exerts the worst possible influence on officers and men: it tends to produce acute military megalomania: when the army is believed to be strong, the nation is cock-a hoop, and ready to pick quarrels. This temperament is peculiarly Celtic. I quote from Mommsen's *History of Rome*, vol. iv., pp. 285–7: 'The Celts boldly challenge danger 'while future, but lose their courage before its presence' (p. 286); and they exhibit 'utter incapacity to preserve 'a self-reliant courage, equally remote from presumption 'and from pusillanimity' (p. 287). In this sense 'militarism' invests the whole nation collectively with the character of the bully and the swashbuckler.

(ii) To denote the spirit of discipline, of implicit unwavering obedience, the instinct of comradeship and 'solidarity.' The ready submission of men and boys in masses to self-imposed discipline shows how necessary it is to utilise this instinct for good ends.

The hooligan is simply obeying this instinct when he consorts with other hooligans in a 'gang' under a 'captain.'

Up to the furthest point the discipline of every good school, where the boys know and trust their masters, is exactly the discipline of a regiment where the men know and trust their officers.

The objectors to cadet corps obviously use the terms 'militarism' and 'military spirit' in the first signification.

Is there any proof that volunteering and the cadet corps movement tend to foster this spirit? I can find none.

Up till the late war, the Volunteers were little esteemed; even now they have only justified their existence. (See *Punch*, passim, for jokes on Volunteers, only paralleled by those on curates: note the university term 'bug-shooters,' etc.).

(The wild language and cheers of the populace over the departure of troops and victories cannot be taken to indicate any deep-rooted growth of the war-spirit in the nation; these are the very people who do not and will not go into the army—the loose-lipped and thirsty-throated.)

Intellectual Effects.—Beyond the improvement in general health, and, consequently, in the state of all the organs of the body, which results from physical training, I do not attribute any intellectual value to games.

The 'league' and cricket professionals may be excellent men, but I do not think it will be seriously contended that they make intellectual advance by the practice of their arts. Lombroso ascribes the quickness and agility of criminals to a kind of simian nature, a great development of the motor at the expense of the cerebral centres. In many schools I think that games take up time and thought unduly to the serious detriment of work, and to the development of what I will call 'beefy-mindedness.' The recent war has made painfully apparent the faults of our public school education, the deficient mental development, and the 'plentiful lack' of imagination. Modern warfare and strategy demand something beyond the physical characteristics of the Apache in our officers. A well-known army coach has remarked that the Duke of Wellington may or may not have uttered the famous saying attributed to him, 'that the battle of Waterloo was won in the 'playing fields of Eton,' but that he considered it beyond doubt that Magersfontein and other unsuccessful battles were lost there!

This preponderance of athletic to the exclusion of intellectual interests appears to be more common in boarding than in the day-schools, for two reasons—

(i) In the case of the day-school the boy goes home at night and finds topics for discussion beyond school life; he finds more to talk about, and receives less encouragement to be 'lop-sided.'

(ii) The 'athletic master' is less common on the staff of day-schools; even when present he gets less opportunity to accentuate the games' craze.

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My own views regarding the 'athletic master' are expressed in the *Contemporary Review* for July 1900. Since writing that article I have read with great interest an article by the Rev. Lionel Ford, then a master at Eton. The passage is worthy of attention in view of the connection between the 'athletic master' and the games' craze, and a further connection, recently suggested, between membership of a first XV. and the army. Writes Mr Ford of the athletic boy: 'Our 'young hero feels pretty certain that his athletic 'prominence of to-day will stand him in good stead in 'life.' 'I shall try to get into the army,' says he to himself, 'probably through the militia. If I fail I 'shall look out for a mastership somewhere. You can 'get lots of holidays, lots of cricket and football then.'

Uniform system necessary to secure efficiency.

IX. There is, I conceive, exactly the same necessity for a uniform system of physical—as of mental—training in all classes of schools.

This uniformity need not be absolute, the aim being simply to secure efficiency in all schools. The uniformity (or co-ordination) should extend to the subjects of primary education—the old 'standards I. to 'VI.'—and to a scheme of physical training extending over a corresponding number of years. The same latitude might be allowed as in the choice of curricula for primary schools.

Suggestion.

The measures I would suggest as necessary to ensure the essentials of a good education—physical and mental—in schools other than primary and higher grade, are—(i) time-tables and curricula should be submitted to the Board of Education for approval; (ii) the teaching should be subject to inspection; (iii) the buildings should be examined and approved by the Board of Education's inspector.

No school that is properly conducted should shrink from submitting curriculum and time-tables, or object to inspection. But headmasters, who apply question-begging epithets to any scheme that does not acquiesce in their absolute supremacy, and, for a variety of reasons, protest against State control in any form, find strong support in the folly of parents who prefer to exercise their indefeasible right to have their children badly educated.

All teachers should hold certificates of proficiency in physical training.

X. Physical training, *in all classes of schools*, might be greatly improved by insistence on a theoretical and practical knowledge of physical training—including capacity to teach—as an indispensable qualification for all teachers, certificated or registered.

Games: their value not sufficiently recognised.

Generally speaking, in the higher class public schools, and in the primary schools of Scotland, the value of games is not sufficiently recognised by School Boards, schoolmasters, or parents. The ideas of football, for instance, are too often gathered from the conduct of the 'supporters' of the local professional team on Saturday afternoons. Even where a more enlightened opinion prevails, the task of organising and conducting games is becoming increasingly difficult for the following reasons:—

Organisation: difficulties.

(i) A good ground of sufficient size is difficult to find; when found, the rent is prohibitive, save where the pupils can pay subscriptions. It is almost impossible to get a lease of a playing field for a term of years, such a lease, that is, as would warrant the erection of the necessary accommodation.

(ii) The cost of the plant and care of the field.

(iii) In the case of large cities and towns, where the field is some distance from the school, time and money are taken up in the transit.

(iv) The very restricted use which can be made of the field where the numbers are large.

(*Note.*—The estimated cost under heads (i) and (ii) in the case of the 230 players of the Glasgow High School amounts to £165 for the ensuing session.)

In the case of primary and higher grade schools in England, the public parks are largely utilised for games, the teachers undertaking the organisation and supervision. The large clubs—professional and amateur—lend material assistance. A detailed account of such work in twenty great centres is given in article 7, vol. ii., of *Special Reports on Educational Subjects*:—'The organisation of games out of school for the

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'children attending public elementary schools in the 'large industrial centres, as voluntarily undertaken by 'the teachers,' by Mr George Sharples, headmaster, Waterloo Road Higher Grade Board School, Manchester.

It appears to me that something of the same kind might be done in Scotland to develop and extend games in the primary schools.

In Edinburgh there is an Inspectors' Cup for competition between the schools, but I do not know to what extent the games are organised.

Mind and body.

XI. The Relation between Mental Study and Physical Training.—When once the period of maturity is reached, the necessity for physical training and exercise is less cogent. But during adolescence very few boys or young men can produce their best work, unless they get a due proportion of exercise. The development of brain and body should proceed *pari passu*.

Mental and bodily exertion draw on the same fund of nervous energy, and, if one draws to excess, the other must suffer. The physical training must be proportioned to the mental expenditure. Too often the mental expenditure is limited by the physical training and exercise. The proportion varies, but I should say that—

Time: just proportion.

XII. *In a Day School*, with the ordinary hours and the Saturday whole holiday—the total number of periods being thirty-five per week—two periods per week gymnastics and two hours' games should keep a boy in good condition.

XIII. As to the comparative merits of fifteen or twenty minutes' gymnastics or drill daily—or a definite number of periods (per week two)—I can offer no opinion as regards primary schools. In the case of the High School of Glasgow, and similar schools, I am strongly of opinion that the definite periods constitute the better system.

Outdoor training.

XIV. The advantages of outdoor training are obvious: the necessity for a proportion, at any rate, of the physical training taking place in the open air is cogent in all large centres.

Military drill advocated in all schools.

XV. Some form of military drill or training should, in my opinion, form part of the ordinary curriculum of every school. The new system of physical training for the Army has discarded nearly all the objectionable features of the old drill book.

XVI. The system of physical training outlined in the accompanying scheme is, I think, thoroughly satisfactory. Wherever possible, games should be included in the compulsory scheme.

Physical education.

XVII. At present there is no course of physical education (beyond ambulance and first-aid lectures) in the High School curricula.

Next session, as an alternative to these lectures, I propose to have a course in hygiene, including—

(i) Respiration and Ventilation.
(ii) The Skin—Cleanliness.
(iii) Digestion—Food.
(iv) Exercise.
(v) Clothing, in Relation to Health.

Medical examination by school staff.

XVIII. There is no examination by a medical man. A medical examination is held twice yearly: the cards I have brought show the nature of such examination.

The examination is made, and the measurements taken, by Messrs R. A. Nicolson, M.A., B.Sc., and Frank L. Grant, M.A., and Messrs Garrow and Core, gymnastic instructors, all members of the school staff.

Compulsion impossible.

XIX. Gymnastics and physical training classes might be recognised as full grant-earning, and they might be made free. Compulsion, in the present state of public opinion, is, I think, impossible. The whole question of compulsory military drill in all classes of schools—primary, higher grade, technical, secondary, and continuation classes—should, I think, be determined by considerations of national rather than of educational policy.

12,365. *By Sir Henry Craik.*—The second section of your evidence points to the fact that the boys attending your school are of rather the upper middle class, except those who come in by bursaries?—I should think that that is so.

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12,366. There are one or two points that have struck me as slightly inconsistent. You say that beyond improvement in general health, which results from physical training, you do not attribute any intellectual value to games. Again, you say in paragraph XI. that during adolescence very few boys or young men can produce their best work unless they get a due proportion of exercise. Is there not a little inconsistency between these two statements? The one seems to say that it has no effect on the mental development, and the other that mental development is impossible without it?—I think that an improved physical condition is produced in which better mental work is done. I think that the two statements are quite consistent.

Physical exercise necessary intellectu developm Military supplem by games

12,367. I just want to prevent any inference that might be made, that you thought that physical training was not necessary for the full intellectual development. It is, in fact, a necessity?—Yes.

12,368. Now, comparing the systematic physical training or drill with games, I should like to know which you place highest?—As an ideal system of physical training, I believe in a combination of games and drill; it should be military drill, supplemented by games.

12,369. You say there are considerable advantages, but also dangers, in games, when speaking of the intellectual effects?—Yes, they may be overdone, as I think they are in the majority of the great schools.

12,370. You say in another part of your statement that that is not a danger at all to be feared in any day-school?—I think that that is so.

12,371. Of course these day schools are the great majority in Scotland?—Yes.

12,372. What do you think is the special advantage of physical training?—It is the only possible staple of training in schools. It is, for instance, impossible to take 928 boys a long distance out to play games.

12,373. You speak of certain dangers and drawbacks in regard to the systematic drill?—There is the possibility of fatigue, as I think it makes more demands. I think that games make less demand on the nervous system than drill. The old system of drill, what I would call the barracks' square parade-drill, which kept boys waiting a long time while some small action was being done, was very unsatisfactory. In some schools the old drill was given as a punishment, which showed that it was felt to be fatiguing.

Systemati drill: goo disciplina effect.

12,374. You think that the disciplinary effect of systematic drill is good?—I think it will be with the new drill.

12,375. But any drill which involves obedience to orders and words of command has a good disciplinary effect?—Yes, the best.

12,376. You attach importance even to the wearing of uniform, to association in a certain organisation like a cadet corps?—Yes.

Games: socially a individua valuable.

12,377. That, of course, would not be given by games?—I think games do give it, but I think the chief value of games is their social value and the power of individual self-control.

12,378. Games would hardly have the same disciplinary effect?—That is so, but they have the same effect to this extent, that in games you learn to realise that you are a part of your school, and you also realise that in the cadet corps.

Drill: parents' objections

12,379. You discussed objections that might theoretically be raised against drill. Have you found these objections to exist among the parents of your own boys?—I have had them stated in two or three cases.

12,380. Have they asked that the boys should be withdrawn?—No, but they have not allowed their boys to join the cadet corps. I have had objections from parents that such organisations tend to foster the military spirit.

12,381. There is a certain amount of systematic drill even for those who don't join the cadet corps?—Yes.

12,382. They have never objected to that?—No.

12,383. They object to it when it is under the name of a cadet corps?—Yes.

12,384. Have you many boys who are training for the army?—I don't know that I have any. I have no army class.

12,385. Do you know any schools in Scotland where there is an army side?—There is one in the Edinburgh Academy, and one at Glenalmond.

12,386. Why is there no demand in Glasgow for that?—I cannot say, except that the class of parents who intend their boys for the army send them to other schools.

12,387. It is not through unwillingness on the part of the authorities?—No. The reorganised curriculum of the High School would give the training in the necessary subjects.

12,388. For that purpose the cadet corps would be of great value?—I don't think that the cadet corps' training would be of any advantage as regards passing the Sandhurst entrance examinations.

12,389. But it would give them a certain professional knowledge if the instruction was carried on thoroughly?—Yes.

12,390. Have any difficulties occurred in the organisation of that cadet corps: do you find any of the rules difficult to comply with?—No; the only difficulty is the one of expense.

12,391. Summing up, you think that in a school like your own, for a well-to-do class of children, with a large revenue, in addition to games some systematic physical training is necessary?—Yes.

12,392. The inference will be that where games cannot be so well developed, as is the case in the State-aided schools, the physical training there would be even more necessary?—Yes.

12,393. I observe that your grounds are a long way from the school?—Yes.

12,394. There is no possibility of getting grounds any nearer?—No.

12,395. *By Mr Fergusson.*—We have had evidence as to the facilities for physical exercises and games in the universities of Scotland. Have you any experience of Scottish universities?—I know the Edinburgh and Glasgow universities well.

12,396. There is no very great interest taken in athletics or physical exercises in the Scottish universities?—No.

12,397. We have been told that one reason for that is that there are very few facilities, and there is no time. Have you any observations to offer on physical training in the Scottish universities?—I think the secondary schools of Scotland have restricted education to what was done in the classrooms and within class-hours; that is to say, a boy has gone to school and his intellect only has been developed, nothing being done for his social life; when he goes to the university he is more or less a selfish unit. He has never been taught to regard games as necessary or desirable, and he sticks too exclusively to work.

12,398. You think that the teaching that is now being given in these schools such as yours will increase the desire on the part of lads when they go to the university to continue some physical training and physical exercises?—I hope so.

12,399. Have you any ideas as to how the opportunities at universities could be increased: there is the difficulty of time?—I take it that there are just the same opportunities at a Scottish university as there are at an English university.

12,400. It is a matter of arrangement?—Yes, it is a matter of arrangement of classes. They should not be held in the afternoon.

12,401. *By Mr Shaw Stewart.*—With regard to the objections to the military spirit, is it your opinion that the elements of military training must be taught to boys in order to get them to move in bodies?—Yes.

12,402. Therefore the objection to the elements of military training, quite apart from the view of encouraging a boy to be a soldier, is quite unreasonable?—I think so. We don't move our boys from one classroom to another in military formation.

12,403. But if there was a fire in a school you would have to move them quickly in masses, and then the elements of military drill would be necessary for that?—I don't think that that necessity is very cogent. In the case you speak of, I cannot imagine anyone issuing military orders for boys, say, to form fours.

12,404. But the elements of military training will be necessary for the ordinary training of boys. What are your reasons for exercising the elements of military drill over boys?—I think I have already given these in detail.

12,405. My object is to accentuate the difference between encouraging a boy to be a soldier and using the elements of military drill for the purpose of teaching boys how to move together in a large number?—I would make use of the elements of military drill in the gymnasium, but in a school like the High School I don't think rigidity of movement necessary in the ordinary evolutions of life. For instance, we never move our boys downstairs in a military formation. We never make them march.

12,406. You said you believed in military training supplemented by games. In military training do you include physical exercises?—Yes; but I should minimise any merely mechanical evolutions.

12,407. In short, you believe in military training because it comprises the best kind of physical exercise for developing the body?—Yes.

12,408. That you consider to be essential to the health of a boy?—Yes.

12,409. *By Sir Thomas Glen Coats.*—You are strongly in favour of physical drill and games in Scotland?—Yes, very strongly in favour of that.

12,410. You devote a very much greater time to these exercises than has been given in former years?—Yes, and they have been regularised by the School Board. There are two school periods for gymnastics in the time-table, and two hours for games.

Games: voluntary.

12,411. These are entirely voluntary on the Saturdays?—Yes.

12,412. Are many of the pupils engaged in these games on the Saturdays?—I think we have played ten fifteens on a Saturday, which represents 150 boys.

12,413. Do you have boys and girls in your school?—No, we have only boys. The great difficulty in our case is that over 500 of the pupils come from a distance. That is a difficulty as regards the Saturdays.

Ages of boys on leaving.

12,414. How old are the boys when they leave your school?—I should say that the average life is from three and a half to four years. The average age of our boys when they leave will be between fifteen and sixteen. We have boys at school as old as nineteen, but these are exceptions.

Continuation of training desirable but difficult: should be made attractive.

12,415. Do you think any steps should be taken to continue the physical training of these boys after they have left the High School?—I think it is most desirable that steps should be taken to achieve that. There is a difficulty in this, that in Glasgow there are eight School Boards, of which six are actually effective—that is to say, eight School Board areas, six of which have actual schools. Unless you institute an entirely different system of registration, similar to the systems that prevail on the Continent, the youth that you wanted to get at, who was living in lodgings, would simply avoid you by changing his lodgings.

12,416. You could not make the parents responsible for these youths?—They usually live in lodgings.

12,417. You cannot think of any scheme for making it compulsory?—I think it is desirable to have a scheme such as we had in the time of the Tudors, when by statute the use of the long bow and the practice of arms were demanded. I would make it a matter of national, and not of educational, policy.

12,418. Do you think it would be practicable to give boys and girls after they leave school physical training along with other lessons, say three times a week?—Yes.

12,419. If it was not made compulsory, do you think such inducements might be offered to the young people as would bring them out?—Yes, I think

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so. The subject of gymnastics should be put on the same footing as the other subjects, and should be paid the full grant. The gymnastic classes should be free.

12,420. Do you think that that would induce them?—I think so. Of course, it depends on the trade that they are employed at during the day. I think that the clerk certainly might attend.

12,421. *By the Chairman.*—You have quoted from ancient history about what had to be done in England long ago. It was different in Scotland?—Yes.

Scotch and English boys compared.

12,422. Is there much difference between English and Scotch boys now?—I think the difference depends on the homes and on the parents. In England, athletics have become traditional, and the parents never think twice about the boys playing games. In Scotland there is considerable opposition on the part of the parents; they don't think it is necessary. I should say that Scotch boys, particularly Glasgow boys, are keener all round when they do take a thing up than they are in England. I may say that they are keener in Glasgow than they are in Edinburgh. Here, again, the keenness, directed hitherto to work, is apt to defeat itself.

12,423. You think with a little encouragement there is almost no limit to their physical abilities?—I think so.

12,424. I would ask you to read section 10 of your evidence?—'There is, I conceive, exactly the 'same necessity for a uniform system of physical—as 'of mental—training in all classes of schools. This 'uniformity need not be absolute, the aim being simply 'to secure efficiency in all schools. The uniformity '(or co-ordination) should extend to the subjects of 'primary education—the old "standards I. to VI."— 'and to a scheme of physical training extending over 'a corresponding number of years. The same latitude 'might be allowed as in the choice of curricula for 'primary schools. The measures I would suggest as 'necessary to ensure the essentials of a good education '—physical and mental—in schools other than primary 'and higher grade, are (i) time-tables and curricula 'should be submitted to the Board of Education for 'approval; (ii) the teaching should be subject to inspec- 'tion; (iii) the buildings should be examined and 'approved by the Board of Education inspector. No 'school that is properly conducted should shrink from 'submitting curriculum and time-tables, or object to 'inspection. But headmasters, who apply question- 'begging epithets to any scheme that does not acquiesce 'in their absolute supremacy, and, for a variety of 'reasons, protest against State control in any form, 'find strong support in the folly of parents who 'prefer to exercise their indefeasible right to have 'their children badly educated.'

Playground.

12,425. *By Sir Henry Craik.*—You say that you have no ground at the High School itself for games?—Practically none. The juniors play little games in the afternoon.

12,426. What is the size of the whole ground that you occupy?—I could not say.

12,427. Suppose there were no buildings on it except the original school, would there be room for games?—No.

12,428. I was at the High School myself, and we certainly did play football in the playground then?—They play it now, what I call the little game, but the playing-ground is not seventy yards long.

12,429. There have been a good many buildings put on it since my time?—Yes.

12,430. Even if these buildings were not there, would the playground not be big enough for football?—Even if the two side wings were not there it would not be big enough.

12,431. But without the new buildings there would be a considerable playground?—No, it would not fulfil the minimum conditions laid down for Association or Rugby. Besides, you could not have turf there with the boys walking along; the turf would be walked off in three days.

12,432. The site, perhaps, has been rather overcrowded?—No; there is enough space for boys to go out and get fresh air between the classes.

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12,433. But not so much as there used to be?—No.

12,434. *By Mr Alston.*—You have 200 boys in your cadet corps out of a total of 928 boys?—Yes.

Cadet corps numbers.

12,435. Is there any limit put to the size of the corps?—No, we might apply for more companies if the boys came in. The only difficulty seems to be the getting of officers.

12,436. In the Kelvinside Academy a larger proportion of the boys seems to belong to the cadet corps?—Yes. In Kelvinside Academy they have only one company. In the High School we have a second company, which means six officers in all.

12,437. There is no necessary limit?—No, I don't think the War Office puts one.

12,438. In a school like yours, there can be no objection on the part of parents on the score of expense?—I think all the boys who could join do join. The question of individual expense has come in very seldom.

12,439. There has been objection on the part of parents on account of the military spirit?—Yes, I have had three or four cases of people who came up to the school and protested, saying that they thought this movement was wrong.

12,440. What was their exact attitude? On what did they base their feeling?—What, I think, they wanted was universal peace, disarmament of all military forces, volunteers and regulars alike.

12,441. Did you ascertain whether they belonged to the Peace Society?—No, I did not.

12,442. These were exceptional cases?—Yes.

12,443. You find that boys and parents are quite pleased on the whole with the military instruction?—Yes. Glasgow generally is very good at volunteering. I think there is a greater proportion of regiments in and around Glasgow than in any other place in Great Britain.

Games: spectacular element disapproved.

12,444. That is a fact, and not only is there so large a percentage of volunteers, but the percentage of proficiency is, or rather used to be, greater than in any other part of Great Britain. You have given the advantages of games, but you have thrown out one or two warning notes?—Yes.

12,445. In one paragraph you quote them as being very detrimental, if carried to excess?—That is so.

12,446. You don't approve of the influence of the professional element?—I am strongly against the spectacular element.

12,447. In speaking of the effect of games, you quote a statement that, although the Battle of Waterloo was won in the playing fields of Eton, still Magersfontein and other unsuccessful battles were lost there?—Yes, I think there would be a consensus of opinion that some of the defeats in South Africa might have been saved.

12,448. What is the exact bearing of that remark?—I think I have gone into it fully in my evidence. The Rev. Lionel Ford of Eton says that a boy who at school went in for nothing else but games, goes up to a university and gets admitted because he is an athlete, and then, by-and-bye, he gets into the army by a sort of back door. I think it is incontestable that this is one of the ways in which the commissioned ranks of the army are recruited.

12,449. Is it that particular defect that leads so many officers in the army to neglect their professional duties?—I don't think officers pay the same attention to their professional duties as do other professional men. Their duties do not bulk so large in their lives.

12,450. What is the relation between that state of things that we have heard so much about and the excess of games in the schools?—I think the games are overdone. To quote Lombroso, I think the motor centres are developed at the expense of the cerebral centres. Mr Ford includes a certain type of schoolmaster in the same category.

Medical examination.

12,451. *By Mr M'Crae.*—You have no medical examination of your boys?—No.

12,452. Don't you think that that would be an advantage?—Only for one thing—the heart. No boy

should be allowed to play games who suffers from any heart weakness.

12,453. You don't think it would be an advantage to have each pupil medically examined?—Not beyond that. I think that such an examination as we have is quite sufficient.

12,454. Are all your pupils examined by your staff and gymnastic instructors?—Yes.

12,455. You have produced some tables as to measurements?—Yes. (*Witness handed in tables.*)

12,456. You have a statement as to physical measurement?—Yes, that is a summary of results obtained from examination of one of the forms.

12,457. I notice that you have 55·6 per cent. as defective in eyesight. This represents the defects on all counts?—Yes.

12,458. Do you find that that obtains generally in the other forms as well?—I don't think the results are out yet for the other forms.

12,459. Has that impressed itself on you as being a serious matter?—Yes; and we are testing the hearing in the same way.

12,460. What do you think is the cause of defective sight?—I think the conditions of modern life have a good deal to do with it. Boys never learn to look at a thing.

12,461. 49 per cent. of defective eyesight is quite normal?—Yes, I think so, if all defects are included.

12,462. I notice from the photograph of your cadet corps that it is really attached to the 1st Lanark Rifle Volunteers?—Yes.

12,463. That, I suppose, is the reason why you get the advantage of their Morris-tube and their ranges?—Yes, and the drill hall.

12,464. Are there any boys over seventeen in the cadet corps?—I think there are some.

12,465. Are they not ordinary members of the volunteer corps?—No, we don't swear them in.

12,466. I think that is done in some other schools?—Yes, it is done at Merchiston, and I don't see any objection to it. The only reason is that there are not enough to make it worth while to do so.

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12,467. You say that your officers don't get the outfit allowance?—Yes, that is so.

12,468. Suppose you swore in those boys who were over seventeen years of age, and got your officers sworn in as officers of the 1st Lanark Rifle Volunteers, they would then be entitled to the outfit allowance?—No, that does not follow. There must be vacancies in the regiment to allow of this. The cadet corps officers have all the same tests and have to undergo the same training, and it seems hard that the outfit allowance should be withheld.

Opportunities for training inadequate: some official supervision necessary.

12,469. *By Mr Fergusson.*—In section IX., which you read, you suggest some supervision as being necessary to ensure the essentials of a good education. Do you say that your experience is that that ought to be done, or do you say, as has been suggested by some other witnesses, that physical training and the opportunities for exercise have of late very much increased in your class of school, and the authorities are fully alive to the necessities, and that sufficient advance is being made without the necessity of any State interference?—I should say that that is not the case in Scotland. I do not think that the opportunities for physical training are adequate. I don't think that the games are organised, nor is the position they occupy in the school curriculum sufficiently considered. In fact, the rector of a northern academy told me that a local magnate and member of Parliament made a speech, and said that he was Anglicising this school, because he had introduced games and instituted a cadet corps.

12,470. Has there not been a considerable advance in public opinion in Scotland as to the necessity for physical exercise?—It is not so neglected as it was. It is moving.

12,471. But you think there ought to be some official control?—Yes.

The witness withdrew.

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12,472. *By the Chairman.*—You are rector of the Kelvinside Academy, Glasgow?—Yes.

12,473. You have prepared a statement of evidence, which you will please read?—

I was educated at Christ's Hospital and St John's College, Cambridge. For the past two years I have been Rector of Kelvinside Academy, Glasgow, and for the previous ten years I was an assistant master at Edinburgh Academy. My evidence is based mainly on my experience of the nature and the results of the physical training given in these two Scotch day-schools.

Kelvinside Academy ranks as a secondary school, and educates upwards of 200 boys from six to eighteen years of age, mostly the sons of well-to-do parents residing in the neighbourhood. The physical training of our boys is regarded as of great importance with us, and special stress is laid upon this essential part of their education. Our outdoor games, which are not compulsory, consist of football in the winter months and cricket in the summer. Boys are encouraged to organise and regulate their own games, but we have several masters on the staff who take a keen interest in the outdoor life of the school, and one or more of them are generally on the field while the games are in progress, either personally taking part or exercising general supervision. I consider it as most desirable that masters should be able and willing to show an active interest in the athletic side of school life, as the cordial relations thus established between them and the boys contribute materially to the effective discipline of the school. Two periods a week, from 12 to 1, are devoted to practice games, and matches are played on Saturdays. Our school field is 6½ acres in extent, and situated about seven minutes' walk from the school. We have further about 2 acres of playground surrounding the school buildings, in which the boys play during the regular school intervals.

Athletics.

Athletic sports are held annually in the school field, and include the usual events—running, jumping, hurdle-racing, place-kicking, etc. Boys are encouraged to train for these sports systematically.

Gymnastics: compulsory graduated system: instructor. Gymnasium attached to school.

Gymnastics form a regular part of the school curriculum and are compulsory on all boys, unless physically unfit. Every class in the school has during the week two periods of about forty minutes each allotted to the gymnasium, except the two highest classes, which have only one period. In the case of the very youngest boys, of six or seven years of age, the gymnasium is optional. There is a well-equipped gymnasium attached to the school, under the supervision of a competent instructor, who was lately chief gymnastic instructor at Maryhill Barracks and is now a regular member of the staff, permanently employed. The system is carefully graduated according to the boys' physical capacities. For the greater part of the school the exercises consist of free gymnastics, including dumb-bell exercises. This is subsequently combined with a moderate use of the usual apparatus as a boy advances up the school, until in the highest classes a more extended use of the apparatus is allowed and boys are instructed in the elements of boxing and single-stick.

A gymnastic display is given annually by the school, and competitions are held for places in the gymnastic 'eight,' in much the same way as for the football fifteen and cricket eleven. Proficiency in gymnastics is encouraged by the award of medals and prizes.

Voice training.

Voice training forms part of the curriculum of the lower half of the school for all boys who show the least aptitude for it. The time allotted is one hour per week.

Drill: cadet corps very popular.

Drill.—There is a cadet corps belonging to the school, attached to the 4th V.B.S.R. (Cameronians) The corps is very popular with parents and boys, and at the end of last session numbered upwards of 80 out

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of a little more than 100 available. Membership is almost exclusively confined to boys of the upper school.

The corps was started some ten years ago by a master then on the staff, who held a captain's commission in the 4th V.B.S.R. He has lately been succeeded by another volunteer officer, a captain in the South Staffordshires, whose commission will be transferred.

Drill is taken two days a week for about an hour, between 12 and 1.

Recruits are drilled by a drill-instructor provided by the battalion to which we are attached. The older cadets are divided into four sections, each under a section-commander—one of the boys—who is responsible for their drill and general efficiency, while the commanding officer takes general supervision of the whole corps.

Rifleshooting.

For practice in shooting a Morris-tube range is fitted in the gymnasium. Every cadet has to fire a certain number of rounds during the session, prizes being given for excellence in marksmanship. During the summer months, the older boys go occasionally for rifle practice to the battalion's range when they can get the use of it, and last session an eight was sent to Darnley to compete for the schools championship.

Cadet corps in schools: encouragement and organisation of rifle shooting advocated: general efficiency enhanced by special school camps.

With regard to cadet corps in schools, I would suggest to the Commission that a good deal more might be done by the Government to encourage and improve the rifle shooting. In Glasgow and district alone, several new corps have recently been raised, but the opportunities for efficient practice are extremely limited. Morris-tube practice is serviceable enough as a makeshift, but real efficiency can only be attained by practice at the butts, and more especially by competition among the various corps. If miniature ranges, say up to 200 yards, could be provided in central districts for the use of cadets, with serviceable carbines and competent instructors and markers, there would be a rapid and material improvement in the shooting, the importance of which is, I take it, one of the most obvious and valuable lessons of the recent war. I think, too, that well-qualified drill-instructors might reasonably be supplied by the Government, or as an alternative that a capitation grant be made to all cadet corps, free from the present unsuitable restrictions, to cover the necessary expenses of the corps, which are at present defrayed by private subscription. Further, the general efficiency of school cadet corps, would be much enhanced if opportunities were given them of spending a week under canvas in camps of their own, without being obliged to join the ordinary military camps. Such a scheme would create healthy rivalry between the various corps, and do away with the difficulty many parents now feel in sending their boys to camp; while the week's training, besides lending interest to the work and providing some object to look forward to, would be of inestimable value in giving additional point and reality to what has been learned in the previous year.

System of training: combination of games, gymnastics, and military drill.

With regard to the respective merits and relative values of the various forms of physical exercise, I am of opinion that each has distinctive merits of its own, and that the best results would be given by a combination of outdoor games (football especially in this climate), gymnastics and military drill. In cases where it is impossible, from want of accommodation or other considerations, to organise football, gymnastics and drill, with practice in shooting for the older boys,

Advantages of football.

would give excellent results. The advantage of football over the other two, apart from the healthy exercise in the open air, lies in the fact that success depends as much on the independent action of the individual as on the combined efforts of the whole team. Thus a boy's individuality is brought out, he learns to act for himself on the spur of the moment, while at the same time he realises that on his own individual and unaided action may depend the success or failure of the combination of which he is a unit. The football field will further foster in a boy the qualities of pluck and perseverance, self-reliance and self-control. For these reasons, therefore, I am of opinion that from a moral point of view, football is of greater importance than either gymnastics or military drill, as it tends more to bring out individuality of action and character. The weak point of military drill, as far as its moral effects are concerned, is that at present it is too rigid and uniform, and that, except in the case of officers, it leaves little or nothing to individuality. I understand, however, that the new drill-book gives greater prominence to this desirable feature. Notwithstanding this weakness, I hold that the establishment of cadet corps in schools on a military basis will be productive of much good from a physical and disciplinary point of view. It trains boys to habits of smartness and precision, of orderliness and cheerful submission to discipline, that cannot fail to react beneficially on the general tone of the school.

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Cadet corps commended.

Training physical and mental effects.

Gymnastic training is almost entirely physical in its results, though even here the moral effect of the discipline is clearly discernible. A carefully graduated course of gymnastics, under competent instructors, tends to the improvement of physique, and this in turns acts upon the mind. An inert and stagnant brain is seldom found in a boy of healthy and active frame; and, speaking generally, I think that boys who show the keenest interest in physical pursuits will prove to be the most cheerful and interesting pupils. I do not mean that physical superiority argues intellectual superiority, but that in general boys, whose physical training has provided them with a fund of vigorous health on which to draw, will evince a bright and cheery disposition in tackling their work, that will, as far as their mental attainments go, culminate in success. It would seem to bear out this theory, that our medals and prizes for class-work are repeatedly carried off by boys who have won distinction in one or other of the various spheres of physical activity.

Uniform system undesirable but training must be under careful supervision.

I am of opinion that a uniform system of physical training in schools is neither desirable nor necessary. The system that suits one school may not be found suitable to another. At any rate I think that uniformity is not of much importance. What is, however, important, is that the physical training given should be in the hands of men thoroughly competent, both in theory and practice. It is as easy as it is fatal to good results to overstrain young boys, and the utmost care must be exercised in developing their physique by gradual processes.

Time to be allotted.

With regard to the time that should be devoted to physical training in schools, I think that where no opportunity exists for outdoor games, *i.e.*, where physical training, if given at all, forms part of the school curriculum, half an hour a day should be allotted to every class in the gymnasium, but if this can be supplemented by military drill or outdoor games, or both, as in my opinion it should be, then it becomes less necessary to devote so much time to the gymnasium. Apart from this I think it is of the greatest importance that a short interval should be given after each period's work in school, during which the boys are made to go out into the open air. Outdoor training is preferable to indoor, but where circumstances only admit of the latter, care should be taken to keep the room in which it is given clean and well-ventilated and as free from dust as possible. As a guide for the gymnastic instructor, and also to provide a ready and practical proof of the physical improvement brought about by gymnastic training, I think it is desirable that a register should be kept by all schools, in which the physical development of each boy should be noted from year to year. Such a register has been recently started at Kelvinside Academy.

Schoolmg of physic development desirable.

Continuation classes: compulsion probably necessary: course suggested.

With regard to the question of continuation classes, I think there can be no reasonable doubt as to the desirability of some system by which the physical training started at school could be continued after boys have left. Whether it is practicable to make such a system compulsory or not, I have no means of judging. I suspect, however, that unless a certain amount of compulsion were brought to bear, the system would fail to reach the special class who would perhaps derive the most benefit from it, or who at any rate need it most. If it is to be made compulsory, it must be made

popular and attractive. In all probability the line of least resistance would be in the direction of rifle-clubs rather than in that of rigid military training, savouring of conscription. If in conjunction with practice in rifle-shooting every boy underwent a course of gymnastic training, and were exercised in the more interesting forms of military movements, with exemption on attaining a certain degree of proficiency, the national physique would be maintained at a high level, and the system would be as popular as any compulsory system could be.

12,474. You attach great importance in Kelvinside Academy to physical training?—Yes.

12,475. More so since you have been rector than before?—I really cannot say. I only know about it from my own experience, and I attach considerable importance to it. We also attached considerable importance to it in Edinburgh.

12,476. You say that sports are held annually in the school field. Is that a large field?—Yes, it extends to 6½ acres.

12,477. How do the boys play in that field?—You can get two games, which means sixty boys. We have about one hundred boys who are available for football, but of course they don't all play on one stated day.

12,478. In addition to that field, you have two acres of playground round the school buildings?—Yes.

12,479. Do you have any physical drill of a simple form?—Yes.

12,480. Where is that done?—In the gymnasium.

12,481. Is it never done in the open air?—Yes, if the weather is at all favourable.

12,482. But the weather is very often favourable even in Glasgow?—I would not say very often.

12,483. It is not always wet?—No, but it is very often too cold, and we are not sheltered. I much prefer the physical exercises to be taken out of doors when possible. The gymnasium is airy, and we keep it exceedingly clean and fresh.

12,484. What sort of uniform do the boys in your cadet corps wear?—They wear a Cameronian kilt and a red tunic.

12,485. The recruits are drilled by a drill instructor provided by the battalion. Does he drill anyone else but boys for the cadet corps?—Not with us. The cadet corps practically takes in all the available boys.

12,486. Is it obligatory?—No.

12,487. But it is so popular that there is no difficulty in getting the boys to join?—That is so. Last year over eighty per cent. of the available boys joined it voluntarily. It is exceedingly popular with the boys and their parents.

12,488. If a boy wishes to do nothing in physical exercise, is that allowed?—He has to take his gymnastics, but he is not compelled to take football or any outdoor games.

12,489. Have you any medical examination of boys?—No.

12,490. What is your opinion as to that? Do you think it would be of any use in finding out any weakness in the boys?—I think it would be very useful, but it would be very difficult for a day school to manage it.

12,491. You hardly think that it is necessary?—I don't think it is necessary, but I think it is advisable. Of course, in my opinion, that is more the parents' duty.

12,492. Of what class are your boys?—They are sons of well-to-do parents.

12,493. They are all well fed?—Yes.

12,494. You speak about drill instructors being supplied by the Government or a capitation grant being made to all cadet corps to cover the necessary expenses of the corps. You could hardly expect the Government to do that except through their military advisers?—Possibly.

12,495. Would you not apprehend that some objection might be taken to that by parents in the way of it being too military?—I have not come across that objection myself in regard to the cadet corps.

12,496. Have you had any military experience yourself?—No.

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12,497. What makes you say that individuality among private soldiers is such a good thing?—I think that the ordinary soldier of the present day is too much of a machine. If all his officers get killed, what happens? He does not know how to act, and unless he has some responsible private in his company who will take the lead, he is quite at sea. That, of course, is a civilian's opinion; it is not a military opinion in any way. I think the general civilian opinion is that there is nobody to beat the British soldier if he is well led, but if his leaders happen to be killed, he cannot act for himself, and then there is a panic. If he could be taught individuality, and how to act for himself on the spur of the moment, then he might fill the place of a fallen officer—at any rate he would not feel so stranded.

12,498. You prefer that he should act as they do in a rink in curling, where everyone takes the skip in turn?—Yes. Of course it is difficult to know how to teach them individuality.

Uniform system probably necessary.

12,499. You say that you do not think that uniformity of a system of physical training is of much importance. Of course you must remember that teachers are often transferred from one school to another, and there would be a difficulty unless there was a uniform system?—I say that it is neither desirable nor necessary. Perhaps I should have said 'not necessary.' I would rather have a uniform system than none at all, but I do not think that it is necessary. If you make it absolutely necessary, the man has no free hand to deal with each class of boy as he thinks fit. One system may not suit every school. Of course it never occurred to me that a teacher might be transferred from one school to another. If you are to do that, then of course you cannot help having a uniform system.

12,500. Children are also transferred from one school to another?—I don't see how you can help having a uniform system. It would certainly be much better than no system at all.

School register.

12,501. You have recently started a register of physical development in your school?—Yes.

12,502. Have you brought it with you?—No.

12,503. Is that a sort of physical history of the boy so long as he is at school?—Yes. We take his chest measurement and height, and in the upper classes we take his biceps.

12,504. Those measurements will remain in the school books for ever?—Yes, they form a permanent record of his physical training, just as we have a record of his intellectual training.

Continuation classes: training must be made compulsory and attractive.

12,505. You are in favour of physical training in the continuation classes?—Yes, if it can be managed.

12,506. You rather doubt how it is to be brought about, and you think that if it is to be made compulsory it must be made popular and attractive?—Yes, I don't see how you are to reach the class you want unless it is made popular. There was the same difficulty when compulsory education was brought in. People thought that it could not be made compulsory, but the difficulty was overcome.

12,507. You are in favour of it, and you think that everyone who went through it would be improved?—I certainly think so.

12,508. *By Mr Shaw Stewart.*—You would not apply this sentence of yours with regard to uniformity to Board Schools?—No.

12,509. You prefer that particular schools should have their particular system?—That the man should have a free hand to adopt your system if he likes

Rifle shooting: no difficulty in finding time.

12,510. With regard to ranges and cadet corps,—supposing miniature ranges were provided, how would that work in with the school time?—I personally would not mind giving up time to it, because I think it is so important. At present our Morris-tube practice takes place in the afternoons, and it does not interfere with the school at all. That is all very well for sighting and so on, but when a boy goes out to the range he shoots with the carbine and gets a kick on the shoulder and does not know what he is doing. He

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may be excellent at the Morris-tube and yet be quite a failure at the range.

12,511. You don't see that there would be any difficulty in providing time out of school hours for such practice?—No. We provide time for the Morris-tube, and they have to fire a certain number of rounds during the session.

12,512. In your school every boy must have gymnastics?—Yes.

12,513. Is that a popular class?—It is one of the most popular.

Morris-tube worked in gymnasium.

12,514. *By Mr Fergusson.*—Do you work the Morris-tube in your gymnasium?—Yes.

12,515. Do you find it satisfactory?—So far as it goes.

12,516. You have no difficulty with it?—No.

12,517. What sort of carbines are these that you use? They are not the service rifle?—No.

12,518. That is exactly where your trouble is. If you try the service rifle you will find that there is no such thing as a kick about it?—Service rifles should be provided, but we have not got them.

12,519. You find the Morris-tube to be excellent as training for the service rifle?—Yes, but of course there is also the wind and the different surroundings at the range.

Training now sufficient in higher class schools.

12,520. Do you think that in schools such as yours sufficient attention is now being given to physical training of all sorts, that opinions have changed lately, and more attention is being paid to these things, or do you think it is necessary that there should be some State interference or supervision to see that these matters are properly attended to?—I can only speak for Edinburgh and Kelvinside. In Edinburgh, when the new rector came, ten years ago, he introduced an enlarged system of physical training: in fact the gymnasium was built in his time. At Kelvinside there is sufficient attention being given to the matter.

12,521. Do you know any schools where sufficient attention is not given?—No.

12,522. A previous witness told us that it was essential that there should be State interference or supervision to see that a proper system was being worked in the secondary schools. I rather gathered from witnesses before that that they thought sufficient attention was now given to these matters, and it might be allowed to work its own way?—I don't think there would be any harm in having Government supervision in this matter as in other matters.

12,523. You favour the rifle club in preference to the more strictly military cadet corps?—Yes, as being more popular.

12,524. You find the Morris-tube to be very popular with your boys?—Yes, boys like shooting at anything.

Medical inspection: desirable in Board Schools.

12,525. You said that medical inspection was desirable, but not necessary, and there were difficulties in a day-school. What are these difficulties?—There would be a difficulty in having a medical inspector.

12,526. I don't quite see that. Supposing you have one appointed for your school, then he might inspect every boy at the beginning of the term. It would only take a boy about five minutes, and that would not be serious?—No, but who is to provide the medical inspector?

12,527. Your difficulty is the paying?—Yes.

12,528. I thought your difficulty was in having the boys inspected?—No, there is no difficulty at all in that.

12,529. It would have to be one of the school expenses?—But there are so many things now that have to be paid for by the school.

12,530. You don't think it is sufficiently necessary to entitle you to incur the expense?—No.

12,531. Of course you are speaking for your own class of boys. There is a difference between them and the boys whose parents don't look after them?—Yes. I think it would be extremely desirable in a Board School, because the parents there have not the same means of calling in doctors as we have.

Cadet corps: school camps.

12,532. *By Sir Thomas Glen Coats.*—You say that you would like to take the cadet corps to a separate camp?—Yes.

12,533. Would you be able to get the cadet corps of the different schools into camp at the same time?—Yes, I think so. There is a difficulty, however; we break up in the end of June, while other schools break up in the end of July. August, however, is a month that would suit everybody, and I think that if the cadet corps were allowed to have a camp of their own in the first week of August, it would be so popular that boys even away on holiday would come back for it. In fact, some of our boys were willing last year to come up from the coast and spend some time in camp.

12,534. It would be quite possible to have standing camps, where the boys from Edinburgh could come at one time and the boys from Glasgow at another?—Yes, but I think it would be better if they all had their camp at the same time.

12,535. Do many of your boys go into the army?—A good many go into the volunteers and some of them go into the army. Since I have been at the Kelvinside Academy two or three old boys have passed into the army. Our corps provides nearly all the officers in the 4th V.B.S.R.

12,536. Can you give any suggestion as to whether boys of a different class, those attending the Board Schools, should go into the camp in the same way? In the higher-class schools the number of boys going to camp would be comparatively small?—Yes. I don't see why the other boys should not be sent to camp as well. It would be excellent training for them all.

12,537. The regulation as to cadet corps would require to be altered a little. If arrangements could be made you would advocate that boys who wished should go into camp?—Yes, I think it would be a very good thing for all classes of boys.

Cadet corps inabil earn a

12,538. *By Sir Henry Craik.*—In your evidence you spoke about restrictions. What are the restrictions you had in your mind?—I believe that in order to earn a grant a cadet corps must swear in a certain number of volunteers when they leave school, otherwise they have no grant. We have never had a grant, and I believe that Merchiston has never had a grant. We have never applied for it, just because we have not a sufficient number of boys who become volunteers afterwards.

12,539. That is the only restriction you refer to?—That is the only one that concerns us, and it is the only one I know of.

Schoo specti Depar not h

12,540. Your school is inspected annually by the Education Department?—Yes.

12,541. Do you find that the examination stimulates the work at all?—It is rather difficult to say. Do you mean among the boys?

12,542. I mean this, do you find it helpful?—Yes, I think it is fairly so, but to tell the honest truth, the form of examination by the Education Department is not one that I should choose. We know nothing as to the results. It is not at all helpful to the masters.

12,543. You get their report?—Yes; it is based on a pretty hurried visit.

12,544. The results are from the evidence that is gathered at that visit?—Yes, it may be correct or not. So far as the examination itself goes, there is very little use in it to a school.

12,545. That is your experience?—Yes.

12,546. Has the examination covered the physical instruction?—No. I have always asked the inspectors to see the gymnasium and the cadet corps. We have generally turned out the corps for them.

12,547. At which of the inspections?—Any one that I can fit the time-table to.

12,548. Do they pay attention to it?—Yes.

Quali inspe traini detail port

12,549. As much as you think necessary?—Yes.

12,550. The inspection is carried out by several gentlemen, each of whom is specially qualified in certain subjects?—Yes.

12,551. No one is specially qualified in physical

training?—No, except Mr Scougal, who happens to be qualified to give an opinion on the cadet corps, although not a military opinion.

12,552. You think it would be better to have an inspection of the physical training and a report?—Yes, if it is included in the inspection we should have a qualified inspector.

12,553. And a detailed report?—Yes.

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The witness withdrew.

Commander GEORGE S. DEVERELL, R.N. (retired), examined.

Com. G. S. Deverell, R.N.

12,554. *By the Chairman.*—You are superintendent of the Clyde Training Ship *Empress* at Row?—Yes.

12,555. How long have you been there?—For fifteen years.

12,556. You have 400 boys between eleven and sixteen years of age?—Yes.

12,557. What opportunities have you for physical drill, etc.?—We have a large gymnasium fitted with vaulting horse, parallel bars, swings, ladder, etc., and we have also horizontal bars on the main deck. We have physical drill with and without rifles. Every boy in the ship is taught, and it is eventually done as a battalion. Free gymnastics are used and done every day in the week except Saturdays and Sundays, under a qualified instructor. Every muscle is strengthened.

12,558. Has that had a good effect in your experience?—The greatest proof of the good it does is in the look and improvement of the lads, very much increased weight, height and chest measurements, and I also believe that since so much advantage has been taken of, and attention paid to, the various physical drills and exercises, football, rowing, etc., offences have much decreased. In addition to the ordinary gymnastic exercises, there is the necessary activity which has to be used in going aloft, which I am of opinion brings every muscle into use; also rowing, which is always a special feature in this ship, and causes keen competition amongst my lads.

12,559. You take the height and chest measurements periodically?—Yes, we measure them at entry and every six months after.

12,560. You think that offences are very much decreased in consequence of the attention paid to the various physical exercises and games?—Yes.

12,561. Special attention is paid to swimming with you?—Yes, at the present moment 255 boys out of 380 can swim fairly well. No boy is sent to sea who cannot swim.

12,562. You think that every boy and girl should pass a certain standard of gymnastics before they are allowed to leave school?—Yes. I would strongly urge, not only for the benefit of the young people themselves, but also for our common country, that every boy, aye, and girl too, should be compelled to learn and pass a certain standard of gymnastics before they are allowed to leave school, and every opportunity should be given by having a public gymnasium in every locality, with qualified instructors, as it is undoubtedly the fact that many of those whose 'talents' lay in their muscular development, would thus get the attention the clever lads and lasses now get, which would at any rate give them good health and constitutions.

12,563. Would you prefer that children should have their own teachers to instruct them?—Yes, if they are competent.

12,564. And failing that, a qualified instructor?—Yes.

12,565. Would you prefer to have the examination of these exercises done by an ordinary examiner or by an expert?—An expert.

12,566. You see the difference?—Yes.

12,567. You talk about the ordinary teachers, but you would prefer to have them examined by an expert?—Yes.

12,568. Do you believe that ordinary teachers are capable of teaching physical exercises?—I am peculiarly placed as to that. My gymnastic teacher happens to have been a schoolmaster, but, as a rule, I have had an old soldier or an old man-of-warsman.

12,569. Who examines the boys in those exercises?—Besides myself there is the Government Inspector of Industrial and Reformatory Schools.

12,570. Does he give full attention?—Yes.

12,571. Does he understand it thoroughly?—Yes, he goes heart and soul into all the games.

12,572. You have no acquaintance with the girls?—No.

12,573. What you have said with regard to them is only your own pious opinion?—Yes.

12,574. Have you any acquaintance with school life in Scotland?—Not outside my own school. Of course, I have seen most of the industrial schools, but I have not really seen their work.

12,575. You have prepared a statement of the exercises done by your boys?—Yes.

Physical exercises taught on the *Empress*.

Physical Drill, with Arms (Rifles).—First practice, second practice, third practice, fourth practice, fifth practice.

Free Gymnastics.—Arms bending and stretching; pounding exercise; the lunge, right and left leg; general practice (five motions); touching the toes; arms circling; mowing exercise; on the toes (double kneebend); quick, mark time; on the hands (standing on the hands).

Leg Exercises.—Marching on the toes; hopping; hopping on the left and right foot alternately; rapid marching; gymnastic march; break into double line, knee up.

Parallel Bars.—Clear the right bar to the front; clear the left bar to the front; clear the right bar to the rear; clear the left bar to the rear; pressing between the bars; figure.

Horizontal Bar.—Pulling to the bar; pulling to the bar, seizing the right wrist; pulling to the bar, seizing the left wrist; over the bar, swinging round backwards; over the bar, swinging round frontwards; over the bar, swinging round backwards; right leg over; left leg over; arms over the bar, swinging round backwards; hanging on by the legs and swinging on to the feet.

Jumping.—No. 1, first file, first two files.

Vaulting Horse.—Clear the horse (right then left); clear the horse, right hand; clear the horse, left hand; frog leap; jumping through the hands; somersault; pyramid; skipping.

Class of boys.

12,576. *By Sir Henry Craik.*—From what class do you draw your pupils?—They are all boys of the lower class of society, or they ought to be. They are all industrial school boys sent to us by the magistrates.

12,577. They are not good specimens morally, whatever they may be physically?—No. Of course, some of the boys are sent simply as orphans.

Importance of physical training.

12,578. In the ameliorating of their condition, you attach as much importance to the physical training as to the mental training?—Yes, quite as much importance, if not more.

12,579. The children when they come to you have been underfed?—Yes, and in many cases they have been entirely neglected.

12,580. What do you do in regard to their mental training?—I have a navigation class of forty boys.

12,581. But you begin them with elementary work?—Yes. When they come first they are examined by our schoolmaster, and he places them into the standard they are qualified for. They go up to Standard VI.

12,582. They go rapidly through the standards, because they are regular attenders?—Yes, but they are half-time, because they are doing work also.

12,583. Do you find that the physical training interferes with their intellectual work?—Not much. They are very slow, but pretty sure in the end.

12,584. They advance in body at the same rate?—Yes. If they did not get the physical drill the school would not advance so fast as it does.

12,585. Your experience is that having to deal with

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the set of children who are sent to you, and with whom you must deal and cannot send away, it would be impossible to train them properly without physical training?—Quite impossible.

12,586. Attempting to deal with great masses of children in State-aided schools without systematic physical training would be a hopeless task?—Yes.

12,587. In the case of your own boys, you would feel it to be perfectly hopeless?—Yes.

12,588. What do your boys go out as at the end of the school age?—The majority of them go as sailors.

12,589. Do they do you credit?—Yes, about 90 per cent. of them do.

Good effect of training seen in high percentage of successful boys.

12,590. Coming from the worst beginnings, the system that you follow of a combined mental and physical training trains them so well that you say that 90 per cent. of them turn out a credit to you?—Yes. I should like to add that when the boys are confined to the ship, for instance by the weather, the offences increase tremendously, simply because they have not got an outlet for their games. There are times, of course, when we cannot land them.

Moral offences: precautions.

12,591. Have you great difficulty in regard to moral offences?—No, we take extra precautions. I may say that before I went into the industrial school work, I had three years' experience in the largest training ship in the navy as second in command, and that experience has always followed me right through. Of course in that case they were older boys, but I have always had the idea in my mind, and we have taken elaborate care. When a boy goes to bed he does not get in between sheets, but gets into a blanket and rolls himself round and round, and that, I think, to a large extent stops any immorality. Of course the watchman can at once tell if there is anything going wrong. I honestly believe that on board the *Empress* we have very very little of it.

12,592. Even with such unpromising material?—Yes.

12,593. Have you to take extra precautions when the physical exercise is stopped?—We always have the physical drill. When we cannot land the boys for football, then the offences increase, but I don't mean immoral offences.

Moral and religious teaching.

12,594. *By Mr Alston.*—What means do you take to raise your boys morally; have you religious or moral teaching?—I am the parson, and there are a number of people who come and give lectures on temperance. Whenever any offence takes place, I always speak to them about that offence, and if it is a serious offence, I make a point of speaking to them on the Sunday.

12,595. The teaching is intended to be in the direction of raising these boys morally?—Yes.

Parents of a low type.

12,596. The boys are not all of the lowest type; many of them are smart enough, but they have got beyond the control of their parents. They may be very good boys for all that?—Yes. The most insubordinate and tiresome boy that I had in my ship was a son of a well-to-do lady in the Argyll Arcade.

12,597. We must not class them as being of the very worst type?—No, but the majority of their parents are of a very low type.

12,598. That is to say, they are neglectful of their children?—Yes, entirely.

12,599. And the boys are sent to you when the day industrial school is ineffective?—Yes. I don't have many day industrial school boys with me.

12,600. When you speak of a decrease of crime, you are referring to crime on board your ship?—Yes.

Naval drill on tender.

12,601. Besides your ordinary physical drill, you have naval drill?—Yes, we have our tender.

12,602. What advantage do your boys derive when serving on board the tender?—One of the greatest things they gain is their sea legs.

12,603. But I mean in the matter of training. Do the officers get a better grip over the boys? On account of the handling of the craft, do they feel that they are a united party?—Yes. There are fifty boys on board and seven men, the officer, master, and the crew, and they have a better chance of getting at them.

12,604. Of course in these days the handling of sailing ships has almost become extinct?—Yes.

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12,605. You say that the boys there are better under control, work more harmoniously together, and are under better discipline than perhaps they are with the ordinary physical exercise on board the *Empress*?—Yes.

12,606. You say that most of your boys go into the mercantile marine?—Yes.

12,607. Do they take those boys willingly?—Yes; most of my committee are shipowners.

12,608. Is there any objection to sending boys to a training ship?—I don't think so.

12,609. Would you advocate them being sent to the *Empress* rather than to Mossbank, the boy being the same in both cases?—If the boy had any idea of going to sea I would send him to the *Empress*.

12,610. Is there a large proportion of boys who take naturally to the sea?—Yes. I think I have sent quite 85 per cent. of our boys to sea.

12,611. And 90 per cent. have given satisfaction?—Yes.

Time all

12,612. *By Mr M'Crae.*—You say that you give them physical training every day?—Yes.

12,613. How long does that occupy them per day?—They commence at eight o'clock in the morning and go on till a quarter to nine. In the winter time we have the Friday afternoons.

12,614. Do they get squad drill?—Yes, firing exercise and marching past with the band. They have two bands.

12,615. *By Mr Fergusson.*—Who is head over the *Empress*?—The Home Office.

12,616. You have a pamphlet with you which contains statistics?—Yes, our annual report. I have also a list of the weights and measurements when the boys entered and when discharged.

12,617. *By Mr Shaw Stewart.*—I should like to understand how boys are sent to the *Empress* training ship. Is it exactly on the same conditions as they are sent to the industrial schools?—It is an industrial school.

12,618. Who decides whether the boy is to go to Mossbank or to the *Empress* training ship?—I am afraid I don't know. So far as I know it is done entirely in the Court.

Ages: education; 'timers.'

12,619. *By Sir Thomas Glen Coats.*—The age of the boys is from eleven to sixteen years. Have they got any education before they come?—Some of them have and some have not. In the last three years I have had three boys who did not even know their alphabet.

12,620. Would the average boy be equal to the III. Standard?—Yes, about that.

12,621. Does the education you give them correspond with what is given in the Board Schools?—I should think so; but of course the majority of these boys are sent for not attending the Board Schools.

12,622. After they come, they are working half-time?—Yes.

12,623. Have you any idea whether they make the same progress in your school as children in Board Schools would do?—I think so. We have a large science class which is entirely voluntary.

12,624. Do you think that children attending a school every alternate day or half-time make as much progress as children attending a Board School every day?—I think that they make nearly as much progress.

Measurements.

12,625. *By the Chairman.*—You have handed in some statistics as to the height, chest, and weight measurements. You say that during the last year of a boy's stay in the *Empress* the height generally increases 2 inches, the weight 16 lbs., and the chest girth 3½ inches?—Yes.

12,626. *By Mr Fergusson.*—The boys that are sent to you are all under fourteen years of age?—Yes.

Hooligan loafers: practicable scheme.

12,627. It has been suggested recently in a magazine article that one way to deal with the street loafer and hooligan who is to be found about the streets, with no visible means of subsistence, is to send him to something in the way of an advanced training ship. That, of course, is dealing with boys of fifteen years upwards.

Do you think that any scheme like that would be practicable?—Yes.

12,628. Could you make something useful of him?—Yes, but they would require to be by themselves. It would not do to have them with the younger boys.

12,629. Do you think that that is a reasonable suggestion for dealing with the class of boy who otherwise drift into the hooligan or criminal?—Yes. It would be a splendid idea, because we want sailors, and if we get those, even although they were hooligans, I think that a lot of good might be brought out of them and might be made use of.

12,630. *By Mr Alston.*—Most of the evidence as to drill that has been led before this Commission has been with regard to military drill. As a naval man, would you say that there is anything in naval drill superior to the military drill?—For bringing out actual muscle there is nothing like boat pulling. In that exercise you use all your muscles and your eyes as well.

12,631. Is there nothing in the particular nature of naval drill which brings the individuality of the boy more to the front?—Naval drill is the same as military drill. Of course, there is gun drill, but you have that in the artillery.

12,632. It has been objected that military drill is far too formal?—What a sailor looks on as naval drill is entirely the sail drill.

12,633. Is there anything in naval drill that gives rise to the expression of 'the handy man'?—No, except that a naval man can do anything; he can cook, he can make and mend his clothes, he can cut hair, he can do anything.

12,634. The individual qualities are brought out in each man?—Yes.

The witness withdrew.

Mr W. L. Carrie, M.A., examined.

12,635. *By the Chairman.*—You are headmaster of George Watson's College, Edinburgh?—Yes.

12,636. You have prepared a statement of evidence to be submitted to this Commission?—Yes.

I am a Master of Arts of Edinburgh University. After the usual course of training I was appointed in 1882 head English master on the Classical side of George Watson's College, and held this post till 1898, when I was promoted to the headmastership of the school. I may also state that for three successive years, by the election of former pupils of the school, I was made president of Watson's College Athletic Club.

George Watson's College is a higher class school, with elementary, junior, and senior departments. The last-named includes a classical and a commercial side. The pupils come from all parts of the British Isles, from the colonies, and from foreign countries. They are drawn chiefly from the professional and business classes. The average enrolment is about 1650, and the average attendance over 1500. The ages of the boys range from five to eighteen years. The school buildings are situated in an open space of about three acres, while the Meadows and the Links, which are adjacent, afford abundance of additional playground. The playing field is at Myreside, about a mile and a half from the school. It extends to over thirteen acres, and is provided with a commodious pavilion. The school thus possesses exceptional advantages in the way of facilities for outdoor sports and recreation.

There is a large and well-equipped gymnasium attached to the school, and two qualified instructors devote their whole time to the training of the boys in physical exercises. We have not, at present, a swimming bath, but special arrangements have been made whereby our boys have the privilege of using the Warrender Private Baths in the immediate neighbourhood of the school. This privilege is largely taken advantage of, and the swimming club is one of the most flourishing of the school associations.

The sports clubs of the school are those of football, cricket, golf, swimming, and cycling. General athletics, such as running, leaping, etc., are encouraged by the holding of school games annually, which are very popular, and are usually attended by about 6000 people. Each of the clubs is specially supervised by masters, who take an interest in the respective sports, and all their proceedings are within my own cognizance. As far as possible, however, the actual working of the various clubs is left in the hands of the boys themselves. The experience so gained is a useful training, and I am glad to say that the *esprit* which prevails makes the management simple and successful. Several of the clubs have former pupil sections, and we are greatly indebted to old boys for interest taken in the sports of their successors, both by way of management and also in that of encouragement by the presentation of valuable prizes for competition. The Watsonian Club, for example, gives annually two medals for boys who best combine scholarship and athletics: associations of old boys in London, in India, in South Africa, in North America, and in South America also contribute valuable prizes every year for the benefit of the school athletics; and I must not omit to mention that in all matters connected with the school games and physical education we have the hearty and generous support of the governors of the college.

Drill and gymnastics.

While the sports of the school clubs are voluntary, and, to a certain extent, restricted to the members of the various clubs, all pupils, except such as may be debarred by physical weakness, have continuous opportunities throughout the school course of being exercised in drill and gymnastics.

We have no school runs or paper chases. There is a cross-country harriers' club of former pupils, in whose doings our boys sometimes take part.

We do not make provision for training in handicraft beyond the classes in Practical Science and Drawing.

Voice training.

The pupils of the elementary and junior departments have regular practice in singing twice a week.

Cadet corps: none existing, but advocated.

A good many years ago there was a cadet corps in connection with the school, but it was given up through lack of interest. A rifle team used to take part in the matches for the school cup, which was shot for at the Edinburgh Meeting for a number of years. Personally I am in favour of the institution of a cadet corps, and am not without hopes that we may be able to reanimate it in the near future.

We have no fire brigade corps, and no instruction is given in ambulance work.

Gymnastics and drill in regular curriculum.

There is no opportunity given during school hours for the practice of athletic sports beyond the spontaneous games of the boys at the intervals; but the gymnastics and drill of all but the highest classes form part of the regular curriculum, and are taught during the school day. Senior boys have the privilege of attending the gymnasium after school hours, when they receive special instruction.

We do not find any large number of boys whose parents desire them to be exempted from physical training. A few boys, on account of physical defects or by medical advice, are not allowed to take part in the severer forms of exercise; but, speaking generally, the opportunities afforded for physical training are fully taken advantage of and thoroughly appreciated.

Effects of training: mind and body.

Evidences of the effects of such training are specially marked in the case of boys about the middle of the school—say from twelve to fifteen years of age—where much of the training is by classes to the word of command. A class is enlivened by its spell of bright and active movement breaking in upon the sober routine of brainwork. One notices, too, a general alertness, a smartness of carriage, and a prompt obedience, which, added to the general development of the body resulting from a wisely regulated course of training, make the teaching of gymnastics a useful and even necessary adjunct to mental work. The reaction of body on mind is everywhere apparent, and it is not at all unusual

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to find boys who are in the first rank in school sports taking also a foremost place in studies.

Uniform system: desirable if coupled with latitude.

A certain amount of uniformity in physical training is unavoidable and even desirable; but the instructor who knows his work need not be and ought not to be tied down to a specified course. He will be guided by the special needs of his pupils.

Instructors: better class desired.

A better class of instructors is wanted; men who know the science of gymnastics as well as the art, who have some notion of the anatomy of the human body, and who can apply that knowledge in their work. Their teaching would then be more intelligent and better directed to the end in view. Possibly, also, it would be advantageous were the teaching of physical exercises to be subject to regular inspection like other branches of school activity.

Regular inspection.

True aim of education: all-round development.

While it is true that physical training is bound to conduce to health, and health of body is essential to sound brain work, still, in my opinion, it is possible to over-estimate the value of physical training in its bearing on mental study; and perhaps there is a tendency towards exaggeration of its importance at the present time—I mean its value as conducive to power of mind. Nevertheless, the aim of education ought to be the production, not of the mere bookworm any more than the mere athlete, but of the man who has all parts of his nature developed in their true and properly-balanced proportions.

Time allotted.

In this connection, the question as to the relative amount of time to be given to physical training on the one hand, and to mental work on the other, seems to be a problem rather for the medical or psychical expert. We endeavour to give the majority of our boys at least two half hours a week of physical training, leaving out of account the time devoted to their games and pastimes.

Training should be in connection with school work.

It is certainly preferable to have physical training carried on in connection with the school work, as thereby its recreative effect is obtained as a benefit to the ordinary work of the school; and to a large extent such is the case with us at present; but the exigencies of time-tables and obligatory subjects of study preclude the possibility of fully carrying out the principle in practice.

Out-door training.

I am inclined to believe in the benefits of exercise in the open air as the best of all means for ensuring physical development.

Military drill commended.

I am of opinion that some form of military drill ought to form part of the curriculum of every school, for I believe it to be productive in large measure of those habits of manly bearing and prompt obedience to which I have referred.

Free gymnastics for boys up to fourteen.

I am strongly of opinion that for boys up to the age of thirteen or fourteen free gymnastics is the best form of physical training. Applied gymnastics should be reserved for senior boys on account of the severer muscular strain put upon the pupils and the greater appeal to individual nerve and pluck.

Organisation of games satisfactory.

The supervision and organisation of our school games is eminently satisfactory. The boys are instructed in cricket by a professional cricketer and several assistants.

No medical examination.

We have no general medical examination, and no statistics of physical development can be given.

Continuation of training: old boys' clubs might form basis.

With regard to increased facilities in the way of carrying on physical exercises after school life is past, much must be left to the individual. But I may be allowed to point out that most secondary schools have in connection with them a former pupils' club, and these associations might be made the basis of an organisation whose object would be the affording of opportunities for physical development on various lines. To such an organisation the school gymnasia might be made available—as the school fields are at present—at convenient times and under proper supervision. It is a question for others to consider whether and how such gymnastic and calisthenic classes should be encouraged by the municipal authorities or by Government.

12,637. Are physical exercises, such as free gymnastics, given in the gymnasium?—Yes.

12,638. Does the physical training include actual applied gymnastics?—Yes.

12,639. You only give two half hours a week?—Yes.

Time.

12,640. Do you give no more just because you have no time?—That is so, but great encouragement is given through my governors and the Watsonians. We have various clubs, one of the most flourishing of which is the swimming club. Then we have a very flourishing golf club, and football and cricket clubs. In these ways the physical training of the boys is well attended to, in addition to the more formal training in the gymnasium.

12,641. You say that a good many years ago there was a cadet corps, but it was given up through lack of interest. Has there been any intention to revive that cadet corps?—I am not without hopes that we may resuscitate it in the near future.

12,642. You don't find a large number of boys whose parents wish them to be exempted, but you do find a few?—Yes, a few by medical advice are not allowed to take part in the physical exercises.

12,643. You find that great advantages are apparent in smartness, alertness, and so forth, especially between the ages of twelve and fifteen. That is owing to a certain amount of systematised physical training?—Yes.

12,644. You think that a certain amount of uniformity is unavoidable, but the instructor ought not to be tied down to a special course; he should be guided by the needs of his pupils?—Yes.

Instruct experts ordinary teachers except lowest c

12,645. Who are your instructors at present?—Sergeant Seymour, and Mr Anderson, who was trained in the Leith Gymnasium.

12,646. They are both specialists?—Yes.

12,647. You have no ordinary teachers who go in for it in any way?—No, except the teacher of the lowest class, who gives musical drill to the little boys.

12,648. You don't doubt that she is qualified and that a similar person could be equally well qualified?—That is so.

12,649. You say that it is not at all unusual to find boys in the first rank of school sports and also in the foremost place in their studies?—Yes. This year the dux and second dux are two of the finest boy golfers in Edinburgh.

12,650. You say, however, that they may overdo this?—What I mean is that one is apt to over-estimate its value.

12,651. There are a great many clever boys and men who take no physical exercise whatever?—That is so. I say in my evidence that the aim of education ought to be the production of a man who has all parts of his nature developed in their true and properly-balanced proportions.

12,652. You would want all men to be as like each other as possible?—I should like them all to be healthy by exercise of body, and mentally alert through exercise of brain.

12,653. You believe in the benefits of exercise in the open air as the best of all means of ensuring physical development?—Yes.

12,654. You have school games in all cases under supervision?—Yes.

12,655. That is tuition as well as supervision; they are being taught the games?—Yes.

Measure ments.

12,656. Do you believe in having statistics of physical development?—Yes, I think they would be valuable.

12,657. Would it be much trouble to keep them?—It has not been done in George Watson's, principally on account of the size of the school, but I think that some such measurements would be valuable.

12,658. You don't think there would be any objection to it on the part of the parents?—No, I think there would not be, more especially if it led to their finding out if there was anything wrong with their children.

12,659. You say that most secondary schools have former pupils' clubs in connection with them. That is a useful thing?—Yes, very useful indeed. The Watsonian Club has given a great impetus to athletics

in the school by making the scholarly boys compete for very valuable prizes. The North American Club sent two beautiful gold watches this summer.

12,660. You don't get similar prizes for mental work?—Yes, we do.

12,661. So it makes one branch advance with the other?—It gives dignity to athletics in the eyes of the boys. It induces the scholarly boy to take part in the games, and a boy who is good at the games to attend to his lessons.

12,662. *By Sir Thomas Glen Coats.*—You say that two half-hours are given for physical training during the week apart from the games. Are these two half-hours part of the school time?—Yes.

12,663. Do you consider that the two half-hours are sufficient, or would you prefer to give more?—I think I would prefer to give a little more.

12,664. You think that that might be done without interfering with the other work of the school?—I think so; in all but the highest classes preparing for the Leaving Certificate Examinations.

12,665. Are the boys obliged to take part in the games?—They are not obliged, but they are advised to take part as far as possible.

12,666. Are there many who don't go in for them?—No, I think that a very large proportion of the school take part in the games.

12,667. Physical training is obligatory?—If the parents object we don't give it.

12,668. Have you any objections?—We have a few.

12,669. Is that on the score of health?—Yes.

12,670. You have no objection to military training on the ground that it fosters a spirit of militarism?—I have never heard that.

12,671. *By Mr M'Crae.*—I notice that you have pupils from all parts of the world, from the Colonies and foreign countries, as well as our own boys. Have you noticed any particular difference in the physique of the different classes?—I cannot say that I have.

12,672. The Scotch boy is equal to the Colonial?—I think he is.

12,673. Do you pay any attention to their teeth?—Yes.

12,674. We had evidence to-day as regards the Colonials. Would you say that their teeth is better than the teeth of the Scotch boys?—I have not noticed that.

12,675. You say that a better class of instructors is really wanted. Of course, you indicate men specially qualified to teach gymnastics?—Yes, and more than that, I think they should be educated men, men whom the boys would look up to as they look up to University men.

12,676. Have you ever considered whether it would be a good thing for the teacher also to have a certain knowledge of physical training, so that he might give some exercises in the schoolroom instead of going to the gymnasium?—I quite approve of that.

12,677. Would it be possible in a school like yours?—It might be.

12,678. I suppose that the objection to giving more time for physical training is the time-table?—Yes.

12,679. If more time were given to physical training, might the boys not be brighter and able to go through ore work in a shorter space of time than is required just now, or is there any way you could cut down the curriculum to make room for physical training?—I don't see my way at present to do that.

12,680. Why?—On account of the claims that are made by the Scotch Education Department.

12,681. *By Sir Henry Craik.*—What does the Department demand?—You know how severe the test is.

12,682. What test?—The Leaving Certificate and the Intermediate Certificate.

12,683. What are the demands of the Department—The Leaving Certificate.

12,684. Yes?—Four higher grades.

12,685. They don't require them to be taken together?—I know that.

12,686. Have we not had to remonstrate with the fact that pupils have taken too many together?—No.

12,687. Have we not had to remonstrate that you have presented pupils in too many subjects?—I am not aware that you have remonstrated with my governors.

12,688. We have had to place a restriction?—I know that you have done so.

12,689. Do you wish that the Leaving Certificate, as denoting the end of the school career, should be reduced, and that less should be wanted for a certificate in a particular subject?—All I know is that the test is very severe.

12,690. Do you want us to grant the certificate for less knowledge in a particular subject?—I should be inclined to do so.

12,691. To lower the aims of the Scottish schools altogether?—Not to lower the aims, but, while keeping up the aims, to make it possible for a larger number of boys to take the certificates.

12,692. That is lowering the aims. If we are to pass the boys more easily than we do, it must only be by lowering what we demand in a particular subject. On the other hand, so far as the Department is concerned, we have done all we can, and we have had to impose severe restriction on the number of subjects that were taken. Now, do you want us to allow a larger number of subjects, but to allow smaller attainments in each subject?—Of course I am not arguing the point with you as to increasing the number of subjects or lowering the aims; I am explaining why it is that we cannot find more time for physical training.

12,693. It is because you wish to get a larger number of certificates than you think is consistent with the all-round training of your boys?—I am not aware of that.

12,694. The Department does not ask you to put your boys in for all those subjects?—They set up a very high standard.

12,695. And they limit the number of subjects?—Yes, and our boys aim at these, and we find that if we are to gain these Leaving Certificates, we cannot give them more time to physical training than we do at present.

12,696. Because you present them in too many subjects?—No, we present them in the subjects necessary for the Leaving Certificate.

12,697. You draw from a well-to-do class on the whole?—Yes.

12,698. Your class, I suppose, more than any in the population of this country, is determined to make its way in the world, to gain its livelihood, and is ambitious to do so in the best way possible?—Yes.

Ambitious aims of pupils: highest places in open competitions gained by clever boys who attended to physical training.

12,699. The amount of competition and keenness among your pupils in George Watson's College is perhaps greater than in any other institution in the country?—I know that there is a keen spirit of rivalry, and we have many clever boys.

12,700. You are largest in numbers?—Yes.

12,701. Looking to the position your pupils gain all over Scotland, England, and the Colonies, perhaps there are as many of them as there are from any other institution in the country?—Yes.

12,702. Have you examined whether the boys who have come to the top and have distinguished themselves, as so many boys from George Watson's College have done, have been boys who took a lead in athletic exercises?—Yes, I have noticed that.

12,703. What is the result of your observation?—I have found that those lads found time, not only after school hours, but on the Saturdays, to go to golf, football, or cricket, and they also found time to master their studies, but they were able boys.

12,704. They have taken the highest places in the competitions in Oxford, Cambridge, and the Civil Service?—Yes.

12,705. Were these boys who had attended to their physical training?—Yes, they were strong boys who had attended to their physical training.

12,706. They had not found it incompatible with the carrying on of a high mental strain in their school life?—That is so.

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12,707. You rather think that it promoted their mental activity?—Yes.

12,708. As we have been told that in dealing with the poorest class of boys in the training ship it would be practically impossible to carry on their work without physical exercise, so you, speaking at the other end of the scale, speaking for those who are among the most ambitious and most energetic of the youth in Scotland, say that it has not interfered with, but has promoted, intellectual activity?—Yes.

Cadet corps.

12,709. *By Mr Alston.*—You say you have not got a cadet corps. Is there any reason for that?—There was one some years ago, but it was dropped from lack of interest. I may say that my attention has been given to it recently, and I have been talking about it to my governors. They favoured the idea, and I think we shall have a cadet corps before very long, associated with the volunteer battalions.

12,710. Where came in the lack of interest?—I was English master then, and was not so conversant with school affairs as I am now.

12,711. The rifle team has been given up?—Yes.

12,712. It is quite possible that a very important cadet corps might be attached to George Watson's College?—Yes.

12,713. You might have a cadet corps of 300 or 400?—Yes.

12,714. Would there be any difficulty as regards expense?—There might be. That is also under my notice, but I think it could be got over.

12,715. Would you have any difficulty in the matter of officers?—I am not sure as to that. I think several of the masters would be very willing to help.

12,716. They would also require to be competent in drill?—Yes.

12,717. The more companies you had, the more officers you would require?—Yes.

12,718. You would get the non-commissioned officers from the boys?—Yes.

12,719. Then speaking of physical instruction, you say that a better class of instructors is wanted. Are you speaking of the class of men that you have had hitherto?—I am speaking of the class of men who are usually employed as instructors.

12,720. In such a school as yours?—In all secondary schools.

Teachers: ordinary staff preferred if properly qualified.

12,721. You mean ex-army men?—I think that better-educated men should be employed, men whose education would of its kind compare with the education of University men.

12,722. Then your own teachers would probably be the best instructors in physical drill?—If they had the necessary knowledge.

12,723. Would you favour your teachers being sent to a central school of instruction and coming back with certificates of qualification?—Yes.

12,724. *By Mr Fergusson.*—You yourself are very much in favour of physical training and exercise for boys?—Yes.

12,725. Is it your opinion that in secondary schools, such as your school, sufficient attention is paid to physical exercise and games, or do you think that some official supervision is required to see that they are kept up to a proper standard?—I think in a school like George Watson's, with its numerous athletic organisations and the instructors we have, and the encouragement that we have from the Watsonian clubs, a great deal of interest is excited and a great deal of work is done. *Mr W. Carrie,* 30 Sept.

12,726. Do you know of any secondary schools where, in your opinion, sufficient attention is not paid to these matters?—No.

12,727. Do you think there ought to be some official supervision of these matters in secondary schools, or do you think they are doing well enough as they are?—Speaking for my own school, one of our masters is appointed secretary, and is in constant touch with the boys.

12,728. That is your own school. I want rather to get at the general run of the secondary schools of Scotland?—What we find good would be good in other schools.

12,729. But is it done?—I am not aware.

Food: m provided, paid for b boys.

12,730. You provide a day meal for your boys?—Yes.

12,731. They have to pay for it?—Yes.

12,732. Why do you provide it: is it for the good of the children?—Yes.

12,733. And for their convenience?—Yes.

12,734. If you gave them nothing, they would have to go elsewhere?—Yes.

12,735. If that is good for children in a school such as yours, why should it not be equally good for the children at every Board School in the country? You don't give the meals free, and I am not suggesting that any meal should be given free. I merely ask why, if it is done in the upper-class schools, it should not be done in the lower-class schools?—I should think that it would be on the score of expense. The parents might not be able to pay for it.

12,736. But can you suggest any reason why arrangements should not be made that they should get it if they wanted it?—No. Of course in some schools in the country they go home to their midday meal where the distance is short.

Home less unavoidab

12,737. You were asked about the requirements of the Education Department. Do your boys have much home work?—I should say that the boys in the highest classes have a good deal of home lessons.

12,738. Do you approve of that?—I think it is unavoidable.

12,739. Is it the case that in Germany home lessons are not allowed?—I don't know. In the middle school, and the junior department of the senior school, and in the elementary school, the home lessons are reduced to a minimum, and the boys have plenty of time in the evening after giving an hour and a half to their home lessons.

Medical examinatio

12,740. You have no medical examination in your school?—No.

12,741. Do you think it would be desirable to institute something of the sort?—I think so. The size of our school has prevented this being attended to. I don't say that it should not be done when new boys enter the school.

12,742. It would be still more desirable for boys who are not so well looked after at home?—Certainly.

The witness withdrew.

Mr J. M'Farlane.

Mr James M'Farlane, J.P., examined. *Mr J. M'Farlane.*

12,743. *By the Chairman.*—You are Vice-Chairman of the Juvenile Delinquency Board, Convener of the Mossbank Industrial School, Governor and late Chairman of Hutcheson's Endowed School, Glasgow?—Yes.

Mossbank Industrial School: ages, education, and class of boys.

12,744. In regard to the Mossbank Industrial School for Boys, how many inmates have you?—There are 375 boys, the house being full.

12,745. What is the average age on admission?—The average is from nine to eleven. The physique on admission is much under the average.

12,746. What about their education?—It is usually about three years behind proper standard. In some cases we have boys coming in twelve years of age who are absolutely illiterate.

12,747. To what class do these boys belong?—All sorts; but they have been very much neglected at home, and have been without proper training.

12,748. Are they all delinquents?—No, the most of them are rather waifs and strays. In fact, generally speaking, the boys we have been getting for some years past have been more sinned against than sinning.

12,749. You say that the average age on leaving Mossbank School is from fifteen to fifteen and a half years?—Yes, that is so. All the boys are kept at school all

day till they pass the third standard. Thereafter, till leaving the institution, they are half at school and half at industrial training.

12,750. You say in regard to physical training that the boys are kept thoroughly clean by frequent baths in the house?—Yes. There is an excellent swimming pond, where all are taught swimming. The boys get military drill under an ex-army sergeant.

12,751. How often do they get that drill?—Daily.

12,752. For how long?—About half an hour a day. They turn out twice with the band.

12,753. There are no officers, but the senior lads act as non-commissioned officers?—That is so. All the boys get efficient gymnastic training once a week. This includes bars, horse, rings, climbing rope, etc. All the boys get free gymnastics five times a week, one hour each lesson.

12,754. Your boys seem to get a good deal of physical exercise?—Yes.

12,755. In addition, there are organised football and cricket teams?—Yes.

12,756. You speak about the brass and pipe bands?—Yes. The brass band numbers about forty, and is kept at a high stage of efficiency. The pipe band consists of eighteen performers.

12,757. You say that the pipe band has proved of great value in strengthening and expanding the chests of the boys?—Yes, we are rather surprised at the development there. We started this pipe band about two years ago, and we found that the lung power was so indifferent that they could not play. In a short time they got into the way of playing, and they developed their chests to the extent of a couple of inches in a short time. We are impressed with the difference on these pipe boys.

12,758. You don't find that it makes them thirsty?—They are all teetotallers.

12,759. In regard to industries, you say that you have a farm extending to fifty acres, and a garden of nearly four acres, employing twelve boys. You have fourteen boys at your bakery, and you say that the development of baker lads is most marked?—Yes, they are kept working on their feet, and they have to use their arms to a considerable extent in making the bread, and that sets them up.

12,760. You say that shoemaking does not improve the boys physically?—No, as they are stooping most of the time.

12,761. And they are in a close atmosphere?—The atmosphere is fairly good.

12,762. There is always a smell of leather?—Yes.

12,763. Is tailoring encouraged?—No. We just have the tailoring required for repairs and making clothes. This department is not encouraged, as the posture at work is detrimental, the work is irksome, and few lads follow it out.

12,764. Firewood cutting is not carried on with you?—That is so. It is carried on in other schools in order to make a profit, but we would not have it on any terms.

12,765. You don't wish to make a profit?—No, but we endeavour to make the cost as small as possible.

12,766. There is a boys' home in connection with Mossbank?—Yes. It is an adjunct of Mossbank, for lads (working) who have passed out. The lads, numbering fifteen to twenty, are encouraged to continue swimming and gymnastics, and they get one evening per week of free gymnastics. The superintendent is fully qualified to give this.

12,767. What about your industrial school for girls at Maryhill? Does it come under your Board?—Yes, but it is under another committee.

12,768. Have you much to do with it?—No. There are 200 girls in it, and the house is generally full. For some years past drill has been taught by a sergeant, a very competent instructor.

12,769. Can you tell what kind of drill it is?—No.

12,770. It has resulted in excellent health in the school?—Yes. Two lessons per week are given, and, as I have said, the result has been excellent health in the school. Besides that, the girls are taller and stronger than formerly. It is proposed to make this part of the training more prominent, and a drill hall is in course of erection with that view.

12,771. Do the girls ever give any displays?—They have small displays in the house, but the facilities there are not quite sufficient. When this new drill hall is up, we expect to be able to do a good deal more in that direction.

Day industrial schools.

12,772. You say that you have three day industrial schools with a roll of nearly 600?—Yes. A fourth day industrial school was opened just about a fortnight ago. Up till now the drill has been trifling, but the superintendent of the boys' home will devote about five hours weekly to each school, giving military drill and free gymnastics. One drawback is the amount of time taken up with manual instruction and drawing, etc., and in the case of girls in cooking and laundry work.

12,773. Does that apply to all institutions?—It applies to those four day industrial schools. The children there are all bad truants, and all the time we can devote to their education is really required.

12,774. They pass out of the day industrial schools when fourteen years of age?—Yes.

12,775. What happens then?—They seek employment.

12,776. Do they get it?—Quite easily.

Bands.

12,777. *By Mr Fergusson.*—With your brass and pipe bands you will get a good many musicians?—Yes.

12,778. Do they learn music easily?—Yes, very easily.

12,779. What you have told us about the pipes is very interesting. Do they pick them up easily?—Yes.

12,780. You have a special teacher?—Yes, and he also acts as gardener.

12,781. Is every boy allowed to go into the band?—They are selected by the governor. No one gets into the band unless his record for behaviour is thoroughly good.

12,782. It is always easy to keep the band up?—Yes.

Training for girls: good results.

12,783. You say that since physical training in the girls' school came more into vogue, the girls have become taller and stronger. Is that from any statistics that you have, or is it just your general observation?—It is just from general observation. They look particularly well.

12,784. And you attribute that result to the physical training?—Yes.

12,785. Is that why you are now introducing it into the industrial schools? What made you come to the conclusion to devote more time?—We were appointing a new superintendent for the boys' home, and in dealing with that we thought that if we got a man thoroughly capable of teaching free gymnastics, we would be able to get a better man, and that his time could be devoted to these industrial schools over and above the janitors who drill the children.

12,786. Have you any experience of any other institutions except those you have alluded to? Can you tell us anything about other industrial schools?—No, except from a cursory visit.

12,787. You cannot give any idea whether the standard of physical training is generally being increased?—No, we have not compared it.

Mossbank: at least 90 per cent. turn out satisfactorily.

12,788. These boys when they leave you at fourteen get employment. Do they generally turn out well?—As far as the lads from Mossbank are concerned, we find on an average that 90 to 95 per cent. turn out well. Quite a large number go into engineering and moulding. A proportion go into farming, and a considerable number go into shoemaking. At least 90 per cent. turn out satisfactory to us.

12,789. *By Mr Alston.*—Does the whole school turn out to drill?—Yes.

12,790. It is practically a battalion?—Yes.

Drill.

12,791. You drill it in companies, but the teachers

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don't act as officers. Did they ever do so?—They used to.

12,792. None of these teachers would be competent to drill?—No.

12,793. Your sergeant is an old army man?—Yes.

12,794. What are his qualifications?—I am not sure. He came from Galashiels, where he was very highly spoken of, and where he had charge of the military drill. He excels as a gymnast in the gymnasium. We think that the teaching should cease in the classrooms.

12,795. Suppose there were any change made as to increasing the amount of physical training and drill in the schools, and that the authorities insisted upon teachers qualifying themselves, would our schools have any difficulty in getting into line with that new condition of things?—Yes.

12,796. What would you recommend? Suppose a new state of things were instituted, in which we were all called upon to have more stringency in drill and more military drill?—We would put additional work on the inspector, whose time is not all taken up with the instruction of the boys. He acts as storekeeper.

12,797. You say we would have a difficulty. Suppose they insisted upon there being complete instruction, and an expert examiner sent at stated intervals to see how it was getting on, could we face up to that?—I think we could.

12,798. You say that the drill instructor is also teacher of gymnastics. Is he competent?—Yes.

Physical drill: good results; good discipline in school.

12,799. What results do you get from physical drill? How does it affect the physique and the conduct of the boy?—The physique is increased in a most satisfactory manner. We have altered the diet somewhat, but I am satisfied that the extra swimming and drill that the children are having are making a considerable improvement on their general appearance.

12,800. Apart from the discipline of Mossbank, is there added stringency in the discipline applied to the boys while taking gymnastics? Does the drill instructor get more disciplinary results in physical training and drill than is got from the boys disciplined generally in the school?—I would not say so. The discipline of the school is very good; the lads behave particularly well.

12,801. Is there anything in the discipline of regulated instruction in physical training and drill which is above and beyond the ordinary discipline of the institution?—Yes. It is bound to affect the general discipline of the school.

12,802. Is such a discipline duly enforced by this instructor?—Yes.

12,803. The results are beneficial?—Yes.

Empress and Mossbank: differences in boys sent.

12,804. We had the question of the *Empress* before us. Can you tell us how the boys are sent to the *Empress*?—They are sent from the Justices of Peace Court. As a rule, when the boys are brought there, there is an officer of the ship present, and if the lad is a likely boy, then he says, 'He will make a good 'sailor,' and he is sent to the *Empress*.

12,805. He is not sent as a punishment, but as an encouragement?—As an encouragement.

12,806. How do they happen to send them to Mossbank instead of the *Empress*?—The application is made by the officer, who takes into consideration the surroundings of the child, the physique, and so on, and the result is that we get the inferior lads.

12,807. He selects those who would be better served by the *Empress*, and sends you the ones who would be better under discipline at Mossbank?—Yes.

12,808. The moral condition of the boys is much the same in both cases?—Yes.

12,809. Shoemaking and tailoring are requisite for repairs in the school, but it is not an advantageous kind of work for giving to the boys?—That is so.

Good health of school due to training and good food.

12,810. You say that the excellent health of the school arises from its physical training. Are there not other good conditions?—Yes. The diet is very good.

12,811. And there is abundance of good milk?—Yes.

12,812. You speak about one of the drawbacks being the time taken up in some schools by girls cooking and doing laundry work?—What I refer to is the excessive amount of that. We have had a suggestion from the inspectors lately that these girls should be taught to do up cuffs and collars, but the thing is absurd. The education of these girls is so far behind, and as they never wait beyond fourteen years of age, there is absolutely no time for these superior branches.

12,813. While you would not object to the cooking and laundry work, you think the excess of it would interfere with their education?—Yes, and the physical drill of the children.

12,814. *By Sir Henry Craik.*—You use the phrase that the children come from all classes. I presume you mean that they originally belonged to all classes. What are the varieties of classes that they do come from?—I would say that they are the children of labourers and the children of widows, who have got beyond control. In almost every case there is absence of home control.

Day industrial schools and Mossbank classes of children compared: results of physical education compared.

12,815. How do the class of children you get into the day industrial schools on account of truancy compare with the children you get at Mossbank?—To a certain extent they are much the same, but we have a few of a superior class, perhaps the children of a decent man who cannot attend to them during the day, or perhaps children of a widow who has to go out to her work, and in such a case it is half an industrial school and half a children's *crèche*, as I might say.

12,816. On the whole, these day industrial schools are rather better than Mossbank?—Not on the whole. I would say that two thirds are of the same class as we have at Mossbank, and the other third might, perhaps, be a little higher up in the social scale.

12,817. Are you most pleased with the results in Mossbank or in the day industrial schools?—From an educational point of view, and from the point of view of attendance, we are thoroughly satisfied with the results in the day industrial schools.

12,818. Are you as well satisfied as you are at Mossbank?—I was speaking of their education, the work they were doing in the school. Their truant habits seem to depart from them, because we have an attendance of about 90 per cent.

12,819. I am speaking in rather a wider sense as to the results and the development of the children in every direction. Whether are you most pleased with the results you get at the day industrial schools or the results you get at Mossbank?—They can scarcely be put on the same platform, because many of these day industrial children are only with us for a short time, and our efforts are to improve their education and their physical development to a certain extent. In the case of Mossbank, we have them till they are fifteen or fifteen and a half years of age, and we are *in loco parentis*, as it were.

12,820. You have a greater hold over them?—Yes, much greater.

12,821. Confining yourself to the physical side of their education, how do the two compare?—Maryhill and Mossbank are a long way ahead of the others.

12,822. The fact that you have a less hold of the children at the day industrial schools in respect of their physical training hinders your good results?—Yes, we have a shorter time to work on both during the day and during the time of commitment. We have an hour and a half more at Mossbank than we have in the day industrial schools, and that hour and a half makes all the difference.

12,823. The result of that is, that the children committed merely for truancy are really not in as good a position either for their physique or mental training as children who have been neglected and are put entirely under your charge?—That is so.

Training as important for civil life as for army or navy.

12,824. *By Mr Shaw Stewart.*—Nearly all your boys go into civil life?—The great proportion of them do. A few go into the army.

12,825. You find that the physical training you are able to give them stands them in very good stead when they go into trade and industrial work?—Yes.

12,826. So that physical training is really quite as important for civil life as it is for boys who are intended for the army or navy?—We are agreed on that point.

12,827. You are in a good position to be able to give evidence on that point?—We are.

12,828. *By Mr M'Crae.*—To what age do you keep the boys in your boys' home after they leave the institution?—They stay there for eighteen months or two years, but very few of them go into the boys' home at all. We pass out of the institution on an average 100 boys every year. Many of them by that time have either fairly good homes or they go to relatives.

12,829. Do you make a charge, or do you house them free?—No. We reckon that it costs about six shillings a week to keep them. If their wages don't amount to that, then they hand over their wages, keeping a shilling or so to themselves. Everything above 6s. is paid to them in pocket money or put into a savings bank, which they draw from when they leave.

12,830. Have you evening classes for them?—No.

12,831. You say that they get one evening per week of free gymnastics?—Yes. *Mr J. M'Farlane.* 30 Sept. '02.

12,832. Is that compulsory?—No, but the lads take it.

12,833. *By the Chairman.*—Have you had any boys with you who were cripples?—We have had a few, but they are not being admitted now. When I first went to Mossbank, as a member of committee, we had some boys who had lost a leg, but the instructions really given from the Home Office and the spirit of the rules were that we were to take no one who was not likely to be ever able to turn out to fight the battle of life. Cripples not admitted.

12,834. *By Mr Alston.*—Is it not the case that in all the schools under the Juvenile Delinquency Board inculcation of good manners is a very special feature?—Yes. Boys respectful and well-mannered.

12,835. All these children are respectful?—Yes.

12,836. Would you compare them advantageously with School Board children generally?—I would be sorry to put them alongside the School Boards so far as manners are concerned. When our boys are in chapel there is absolute silence.

The witness withdrew.

Mr Edwin Temple, B.A. (Cantab.), examined

12,837. *By the Chairman.*—You are rector of Glasgow Academy?—Yes. *Mr E. Temple, B.A. (Cantab.).*

12,838. State your school and university training, your former experience, and the time in your present position.—Educated at Fettes College, Edinburgh, and at Pembroke College, Cambridge. I have had nine years' experience as an assistant-master at Trinity College, Glenalmond, and three years as rector of Glasgow Academy.

12,839. (*a*) What is the class of your school and scholars? (*b*) Give the numbers and ages of the pupils?—(*a*) Glasgow Academy is a large day school, which gives education to the boys of the best class. (*b*) The pupils number about 600 boys from the age of six to seventeen.

12,840. Give in detail all the existing opportunities of physical training under the following branches:—

(*a*) Regular games, *e.g.* football, cricket, hockey, etc.
(1) Are they organised and supervised by masters?
(2) What is the size of the playing field, and its distance from the school?
(*b*) Drill: how taught and by whom.
(*c*) Gymnastics, free or applied. Is there a gymnasium attached to the school?
(*d*) Athletics, *e.g.*, jumping, running, etc.
(*e*) School runs, paper chases, etc.
(*f*) Handicrafts.
(*g*) Voice training.
(*h*) Cadet corps, rifle shooting.
(*i*) Swimming. Is there a swimming bath attached to the school?
(*j*) Fire brigade corps.
(*k*) First aid and ambulance.

(*a*) Football, cricket, lawn tennis are the games played. (1) They are organised by masters and boys, and are supervised. (2) Round the school itself is a large yard of 3½ acres, and there is a cricket and football field of 12 acres about one and a half miles away.

(*b*) Drill is taught to most of the classes by our gymnastic instructor.

(*c*) Gymnastics, free and applied, are taught to most of the classes. There is a large gymnasium. There are no exercises done in the open air. The drill of the cadet corps is done inside the gymnasium.

(*d*) We hold athletic sports in the spring, and a large number of boys compete in the various events, and practise them for some weeks before.

(*e*) Those who play football keep in training by runs.

(*f*) None.

(*g*) The lower classes are taught singing, and there is a pipe band in connection with the cadet corps.

(*h*) A corps has been introduced this year; it numbers about 110 boys. We have just fitted up a Morris-tube range in the gymnasium, and as many boys as possible will be trained to shoot. Voice training. Cadet corps.

(*i*) No swimming bath belonging to the school; but numbers of the boys who dwell in the vicinity belong to private baths, and a swimming competition is held once in the year. Swimming.

(*j*) No fire brigade.

(*k*) No first aid and ambulance.

The games I have mentioned are not compulsory, but the boys are advised as strongly as possible to go in for them. I should like to have them compulsory if possible, but I don't see my way to have it. Games not compulsory.

12,841. State specifically the time allotted to these or any of them *per diem* and per week.—Football and outdoor games are played on Saturdays, and once besides in the week time is made for such games. The games are played under supervision. We practically give physical instruction on the Saturdays, but that is not obligatory in any way. About one-third of the boys will go on the Saturdays, and more will go on the other days. Gymnastics: two periods a week (of about forty-five minutes each) are devoted to gymnastics in all classes except the three highest. Drill: the cadet corps is drilled twice a week. Our school hours are from 9.20 in the morning till 3.50 in the afternoon, with an interval of an hour in the middle of the day. There are seven periods in the school day. Time allotted.

12,842. Are any of those taken in ordinary school hours?—Gymnastics (and physical drill) are taken in the school hours. Gymnastics and drill in school hours.

12,843. What, in your opinion, are the respective merits and relative values of the various forms of physical training?—It seems to me that gymnastics and drill are excellent for the training of the body—the legs, arms, chest, and muscles. That outdoor games give this bodily training, and have the additional advantage of being played in the fresh air, and also give a moral training as well. I give my opinion of the results just from my own experience; I see generally that the results are excellent. Outdoor games preferred.

12,844. How far are those opportunities taken advantage of?—I should think about 70 per cent. of the boys take advantage of the opportunities for games and of joining the cadet corps. Opportunities taken advantage of.

12,845. What, in your opinion, are the results of such physical training?—In my opinion the results of physical training are excellent. The body requires to be developed as well as the mind. Good results of training.

Mr E. Temple, B.A. (Cantab.).

30 Sept. '02.

12,846. What are the effects—moral, physical, and intellectual?—I should say that the moral effects of a cadet corps are that discipline is taught by it; of outdoor games, such as cricket and football, that boys learn pluck and endurance, and discipline too. Of course the boys must be well taught in order to gain all the advantages. The physical effects are good. If the body is made healthy by them, I consider that the intellectual effects will be good. I have known many cases where physical efficiency has been accompanied by mental efficiency. I have just seen to-day a boy who has passed for the Indian Civil Service, and he is one of the best football players in Glasgow. He had to give it up last year when he went to Wren's in London, but he is an extremely good athlete.

Moral, physical, and intellectual effects.

12,847. Is a uniform system of physical training in schools desirable or necessary?—I do not see how it is to be introduced, unless cadet corps in schools be made compulsory. There would be no reason, of course, why the Board Schools that do give physical training should not all give it on similar lines. I am aware that there are various systems, and I don't see why there should not be one laid down as a system to be followed.

One system should be laid down.

12,848. How, in your opinion, can the present system be improved and developed?—I believe it would be a good thing if the Education Department took up the question of compulsory service. I have had great difficulty in starting a cadet corps, because of the slowness that the War Office works with. It has taken us six months to get leave. It seems to me that the question of universal service will have to be faced soon, and I believe that this result would best be attained if boys between the ages of twelve and eighteen were all taught drill and how to handle a rifle. At present the starting of a cadet corps is a cumbrous and costly process, and it ought to be simplified. It would be good for the country generally if compulsory education were to be extended to drill and shooting.

Compulsory service: cadet corps.

12,849. What is the relation between mental study and physical training?—I presume it is the case that the mind can better work in a healthy body, and that physical training tends to make the body healthy.

Mind and body.

12,850. What is a just proportion of time to be devoted to physical training in relation to study?—I should be glad to see boys in the open air for two hours daily, but I leave the answering of this question to more capable hands.

Proportion of time.

12,851. Is physical training most advantageous if carried out daily in connection with school work?—I believe more in outdoor games; but some physical training, such as physical drill and gymnastics, can well be carried out in connection with school work.

Outdoor games preferred.

12,852. What are the respective merits of outdoor and indoor training?—The great advantage of outdoor training is that the fresh air is enjoyed—in a large town a very important point; and my opinion is that outdoor training is superior to indoor training, but in the case of a day school, the latter is more easily secured in connection with the school work.

Outdoor and indoor training.

12,853. Should some form of military drill or training form part of the ordinary curriculum of every school?—I consider that military drill and training should form part of the curriculum of every school, as it is my opinion that every healthy male inhabitant of these islands should be able to defend his country in an emergency. I do not think that conscription, as they have it in France and Germany, can be introduced, but if it can be managed that all boys be trained, enough will be done.

Military training should be part of curriculum of all schools.

12,854. What system of physical training is, in your opinion, the best?—Gymnastics and physical drill train and exercise and develop the body; outdoor games do the same, and secure fresh air.

System.

12,855. As distinct from physical training, what physical education is given in your school?—None.

No physical education given.

12,856. What are the results of your experience regarding physical training, games, etc.?—My experience is that the results are good.

12,857. Are they at present sufficiently organised and supervised?—Yes, at this school.

12,858. Are the teachers themselves duly qualified and instructed?—Yes. Our teacher is an ex-army man—he was a gymnastic instructor in the army. There is no inspection of his work, but we hope, all the same, that he is doing it right.

No inspection

12,859. Are the pupils examined by a medical man?—No.

No medical examination

12,860. Is a school register kept, showing the height, weight, chest girth, spirometry, biceps girth, and general physical development of the pupils?—A register is kept of certain classes showing the height, weight, chest girth, biceps girth. The measurements are taken by the instructor, and he hands them in to me.

Register of measurements kept of certain classes.

12,861. If so, how often are these measurements taken, and by whom?—At the beginning and end of the session, by the instructor.

12,862. What remedies or suggestions have you to propose regarding the last part of the terms of reference, viz., how the existing opportunities for physical training may be increased by continuation classes and otherwise, so as to develop in their practical application to the requirements of life the faculties of those who have left the day schools, and thus to contribute towards the sources of national strength?—As I have stated elsewhere, I think it would be a good thing if boys were compelled to have drill and shooting. A cadet corps should be formed in every school, at which attendance should be compulsory; and in elementary schools boys would have to remain members of their corps till the age of eighteen. The same remark would apply to a less extent to boys at secondary schools, inasmuch as they leave school at a later age than those in elementary schools. It would be possible to have a certain standard which must be reached in drill and marksmanship, and then they would not have to remain all the time till eighteen in the corps, and this would get rid of some difficulties which would attach to boys living at a distance from their schools, to whom compulsory attendance at drill after leaving school might be a real hardship. I believe that so long as expense is not incurred by individuals, this compulsion would not be taken amiss. The effects would be good for the bodies and minds of the individuals; and I should think that the evil of hooliganism would but be attacked in this way.

Suggestion: cadet corps for every school, with compulsory attendance.

12,863. Has this physical training at your school increased since you have been there?—No, I cannot say that it has.

12,864. When you went to that school, was it just the same as it is now?—Yes; we cannot make it compulsory for various reasons.

12,865. We have had evidence from Glenalmond, and therefore I am not wrong in asking you this—Do you think it would be better if there was as much physical exercise in the Glasgow Academy as you had at Glenalmond? Do you think that you have as much?—We don't have as much.

12,866. Do you think it would be better if you had, or do you think that the position of the two schools is so different?—The position is so different that we cannot compare them, but still I should like to see more than we actually do have. It is a very difficult thing to have in a big town.

More physic exercise desirable.

12,867. *By Sir Henry Craik.*—As you have had experience both in Glenalmond and the Glasgow Academy, I would ask you—Do you think that the day-school system in Scotland is in any way opposed to the full development of physical training?—The chief difficulty in the way of full development of physical training is the time.

Day schools: want of time militates against development of physical training.

12,868. You have not the same command over the leisure hours of the boys as you have in a boarding school?—That is so. In six weeks' time from now, when the boys get out of school it will be dark.

12,869. How would you arrange that in a boarding school?—They would have their interval in the middle of the day and would work in the evening.

12,870. The result of that is that in the day-school system, whatever its advantages in other respects, you require to guard carefully against any neglect in physical training?—Yes.

12,871. More carefully than in the case of England,

where the boarding-school system is so widely spread?—Yes.

12,874. *By Mr M'Crae.*—You say that you give forty-five minutes in two periods per week to gymnastics. Does that include the physical drill?—Yes.

12,875. Is it forty-five minutes at a stretch, or do you break it up?—It is forty-five minutes at a stretch. They start off with Indian clubs, and then dumb-bells, and gymnastic exercise, parallel bars, and the horse.

12,876. Have you any particular system of physical training apart from the applied gymnastics which you teach?—No.

12,877. *By Mr Fergusson.*—I don't understand what your difficulty is in making your physical training compulsory in your school?—The ground is a mile and a half away from the school.

12,878. That refers to the games?—Yes.

12,879. But what about the physical exercises in the gymnasium?—They are compulsory.

12,880. I notice you say that drill is taught in most of the classes by your gymnastic instructor, and then you say afterwards that two periods a week are devoted to gymnastics in all classes except the three highest. Do these higher classes not get so much training in physical exercises?—Not in the gymnasium.

12,881. Why?—We have not got the time.

12,882. What time?—Time left over after other work.

12,883. Do you think that your boys in the higher classes are over-worked?—No.

12,884. Is the standard of the certificates very high, and have you a difficulty in working the boys up?—We have to work them.

12,885. Are they worked too much?—I don't think so. Another thing to be remembered is, that the bigger boys may be members of the cadet corps, which is drilled twice a week out of the school, and join in outdoor games.

12,886. You spoke about the difficulties of starting a cadet corps. You mean difficulties put in your way by the War Office, who are troublesome to deal with, and who have all sorts of red-tape regulations?—Yes, that is what I mean. It took us six months to get their permission.

Mr E. Temple, B.A. (Cantab.).

30 Sept. '02.

Cadet corps: difficulties with War Office.

12,887. There are many things they insist on that you think might be dispensed with?—Yes.

12,888. Do you think it would be a good thing to have an inspector going round and examining your physical work?—I should be quite pleased.

Official inspection desirable.

12,889. Don't you think it would be an advantage?—To see that it was being thoroughly done?

12,890. Yes.—I daresay it would.

12,891. Do you think that in schools such as yours sufficient attention is given to physical training, or do you think it would be desirable that there should be some official supervision in all secondary schools to make sure that sufficient physical training was being given? Do you know any that are not paying enough attention?—No. I am satisfied that we are doing all that we can do.

12,892. Have you much acquaintance with other schools?—No.

12,893. *By Mr Shaw Stewart.*—Take a number of schools such as yours, and suppose there were a particular system of physical training selected and recommended, and suppose that all these schools adopted that course, would it not be more satisfactory to the headmasters of those schools that an inspector should go round periodically and examine the physical training work that was being done, so that each master would know exactly how his boys stood as regards physical training?—Yes. I think it would be more satisfactory, because he would have expert advice to rely on.

12,894. Would that not keep your instructors up to the mark, and at the same time show each school how they stood as regards other schools?—Yes.

The witness withdrew.

Adjourned.

TWENTY-SIXTH DAY.

Wednesday, 1st October 1902.

At the City Chambers, Glasgow.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

Sir THOMAS GLEN COATS, Bart.	Mr J. C. ALSTON.
Sir HENRY CRAIK, K.C.B.	Mr J. B. FERGUSSON.
Mr M. H. SHAW STEWART, M.P.	Mr GEORGE M'CRAE, M.P.

Mr R. B. PEARSON, *Secretary.*

Mr SAMUEL CHISHOLM, LL.D., examined.

Mr Samuel Chisholm, LL.D.

1 Oct. '02.

12,895. *By the Chairman.*—You are Lord Provost of Glasgow, and also Lord-Lieutenant of the County of the City of Glasgow?—Yes. I became a member of the Corporation in 1888, and was a Magistrate of the city for five years.

I am not unacquainted with the needs of the citizens in their various relationships, and have interested myself in their social, physical, and religious improvement.

Prior to my election to the civic chair I had been identified with various religious and philanthropic organisations in the city, and since I became Lord Provost I have been brought into close personal touch with almost all the voluntary and statutory associations which exist for the promotion of the wellbeing of the community.

I do not think our city is worse than others.

Yet the habits and morals of our young people is a very serious problem.

I have ascertained the number of males between the ages of twelve and twenty-one years who have been convicted of crimes and offences at our Police Courts during the last three years, and I am sorry to say that these are on the increase.

Mr Samuel Chisholm, LL.D.

1 Oct. '02.

During the year 1899 there were 3523 young men between the ages of twelve and sixteen years, and 7184 between the ages of sixteen and twenty-one years, or a total of 10,707, convicted. In 1900 these numbers were respectively 3692 between the ages of twelve and sixteen years, 7965 between the ages of sixteen and twenty-one years, or a total of 11,657. In 1901 the numbers were still higher—viz., 4523 between the ages of twelve and sixteen years, 7929 between the ages of sixteen and twenty-one years, or a total of 12,452.

Males between twelve and twenty one convicted at Police Courts: increase.

I have also ascertained the number of males committed to reformatories and industrial schools during the same period. In 1899 there were 53, in 1900 there were 93, and in 1901 there were 104.

Committals to reformatories and industrial schools.

The majority of youths between the ages of twelve and eighteen years of age who are brought before the Police Courts show a poor physical development. Their moral condition is low.

Youths (twelve to eighteen) before Police Courts: of poor physique: kinds of offences.

The crimes for which such youths are brought up are malicious mischief, obscene language, petty thefts, and occasionally housebreaking.

Their manners are rude, and wanting in respect to their seniors. They resent correction.

Special temptations.

The special temptations to those youths are early familiarity with betting and drunkenness, association with the vile and vicious, the reading of trashy literature, which magnifies criminals into heroes, ice-cream shops, which are kept open until late hours and on Sundays, are loosely managed, and afford unprofitable places of association. I have no doubt that cigarette smoking to a certain extent comes under the same category, but I don't put it on the same platform as those other temptations I have referred to.

Loafing: causes.

Among the causes which contribute to loafing at street corners are: indolence, desire for companionship, poor accommodation and unpleasant surroundings in homes and lodging-houses, lack of interest in healthy amusements and pursuits, carelessness of parents, who allow children from an early age to remain on the streets until late hours.

With regard to the agencies fitted to counteract the evil influences and temptations above-mentioned, I do not refer to religious and educational, because I believe they are beyond the scope of the reference to the Commission. But I know that in addition to the scholastic side of education, the School Board have drill and athletic classes specially designed for the physical development of the scholars.

Facilities provided by the Corporation: public parks, gymnasia, etc.

The Corporation in various directions have endeavoured to fulfil their part in contributing to the physical culture of the citizens. They have provided in various parts of the city no fewer than nineteen open spaces and children's playgrounds. The largest and most important of these is the Phœnix Recreation Ground in the Cowcaddens district, containing 11,802 square yards. It is situated in the midst of a dense working-class population. It was acquired in 1893 at a cost of £20,205, and has been equipped with gymnasia and other apparatus at a cost of £5219. In addition to these specially constructed playgrounds, portions of the various parks (of which there are fifteen) have been set aside for children playing. By arrangement with the School Board also the playgrounds at a number of the schools have been placed at the disposal of the Corporation for the erection of gymnastic apparatus. The facilities thus afforded are largely taken advantage of, and it cannot be doubted they have a most important effect in contributing to the health and longevity of the children. A public gymnasium for adults is also provided in Glasgow Green, and is taken advantage of to a considerable extent. The gymnasium there is quite open to anyone who is passing, and is constantly being taken advantage of. We cannot tell how many people make use of it.

The Cathkin Braes Park, belonging to the Corporation, which extends to 49 acres, situated in the uplands of Renfrewshire, and a farm at Milngavie to the west of the city, are available for children's excursions and games to encourage them to go out of town for their enjoyment. That, of course, is mainly in the summer-time, and on the Saturday afternoons especially.

Mr Samuel Chisholm, LL.D.

1 Oct. '02.

Public baths: swimming largely indulged in.

The Corporation have erected eight public baths in the various districts of the city, and while swimming is the only athletic exercise for which provision is made, each of the swimming ponds are provided with 'travelling rings,' suspended above the water for the use of swimmers only. It should be mentioned, however, that many of the private bathing establishments have also small gymnasia attached to them.

The extent to which the swimming facilities are taken advantage of will be understood when I say that during the swimming season and at certain hours when the working classes are free to attend at the baths the ponds become overcrowded with bathers.

That there is a natural desire on the part of the people to engage in this exercise is shown by the fact that wherever and whenever a swimming bath is erected it is at once taken advantage of.

During the last financial year the total attendances at all the Corporation Baths were: male swimmers, 368,554; female swimmers, 16,241.

Swimming clubs.

Attached to the baths are over forty swimming clubs, composed of young men desirous of developing this feature of physical exercise. The members of these clubs meet once a week between the hours of 9 and 10 p.m. There are also seven women's clubs. Last year the men's clubs had 971 meetings in the ponds, and the women's clubs 149 meetings. The total attendance of members of clubs last year was: males, 39,550; females, 3075. This is an interesting feature of the baths, which the Corporation encourage in every possible way. It should be mentioned also that the Corporation place the baths at the disposal of the School Board free of charge at certain hours in the day. The facilities thus provided are taken advantage of by forty-two of the schools. The number of school children attending the baths last year was 26,240 boys and 4646 girls. I should like to make a remark in regard to the rowing on the river. There used to be a large number of rowing clubs who practised on the river, but the removal of the weir a number of years ago prevented that. The Corporation have re-erected the weir, and the rowing club which has survived is very grateful for this action on the part of the Corporation. We look forward to further development of that, not only most delightful, but most improving exercise on the upper reaches of the river.

Baths at disposal of School Board during certain hours.

Rowing.

I understand the Commissioners will welcome any information as to the steps which are taken to counteract the temptations and dangers which beset the path of young men in a large city like Glasgow. They also desire to know how far the continuation classes, evening schools, and the various voluntary and philanthropic societies and associations meet the evil.

I am happy to know that in Glasgow we have many useful agencies doing excellent work in the direction referred to.

Y.M.C.A. evening classes for those fifteen to thirty.

I am in a position to speak of the efforts made by the Glasgow United Young Men's Christian Association, of which I am honorary president and a director, and which has a membership of over 7000.

The educational classes carried on in the evening in their central institute and in their four sections are taken advantage of by older students than those attending the evening classes of the School Board.

The ages vary from fifteen to thirty, the majority being from sixteen or seventeen to twenty-three years of age. A large proportion of these come to situations in the city from all parts of Scotland, and through their connection with the association as members are brought into touch with educational classes. The enrolments number about 3000 per annum.

Physical instruction classes: gymnasia.

Classes for physical instruction are conducted in the Central and Southern Institutes with considerable success. The gymnasiums are fully equipped, and the students year after year in the West of Scotland com-

petitions obtain marked successes. For the past session three gymnasium students—one lady and two gentlemen—have carried off championships. These were the club championship of the West of Scotland Junior Gymnastic Association, the all-round championship, and the Indian club championship, the latter by the lady.

The numbers attending the gymnasium classes have been diminishing, and it has been found increasingly difficult to carry them on without serious financial loss. This difficulty has been increased by the alterations introduced into the Code last year, whereby, under Division 4, the Government grants formerly made for these classes have been withdrawn, except in cases of pupils who are also taking instruction in commercial or technical subjects. Almost all the students who go in for physical instruction are not in attendance at other classes, and the discontinuance of the grant under Article 10 (a) of previous codes has seriously jeopardised the carrying on of the gymnasium classes.

It may be of value to have copy of the last report received from H.M. Inspector, viz.:—

'The work of this large institution continues to 'expand, and the curriculum provides for almost every 'taste and almost every need. In modern languages 'and commercial subjects particularly, the courses of 'instruction cover the whole ground and afford an 'admirable training. It is of interest to note that 'many of the students have gained high positions in 'public examinations during the past session. The 'excellent course in gymnastics for ladies has not yet 'secured in the fullest degree the attention which it 'merits.'

As a Governor of the Glasgow Athenæum, I am in a position to know that that institution, which conducts educational classes on an extensive and successful scale, had the same experience as the Y.M.C.A. with regard to their gymnasia. When the present handsome building was erected, about ten years ago, a very fine gymnasium was fitted up at considerable cost. At first the gymnasium was confined to members of the institution, who paid a subscription of 12s. 6d. per annum for its use, including instruction It was found, however, that the number of members availing themselves of this privilege was so small that the governors were obliged to throw it open to the public, charging non-members 21s. per annum, and continuing the subscription for members at the moderate figure of 12s. 6d. The fees received did practically no more than pay the instructor's salary, leaving nothing for the other expenses, such as rent, rates, lighting, cleaning, etc., and resulted in a loss of about £200 per annum. When this had gone on for about eight or nine years it was proposed to the members that if they would agree to a slight increase in the rate of subscription, with the view of bringing the department nearer to a paying point, the governors would give it a further trial, but when a vote was taken it was found that a large majority were not disposed to accept this proposal, and hence the gymnasium was closed. It was hoped that a grant would be received from the Scotch Education Department for instruction in physical exercise, but under the new code, as already explained, this grant is only paid in the case of those who are studying some other subject in the institution, and very few enrolments took place under these conditions.

The value of gymnastic classes is undoubted, not only from a physical point of view, but also from a moral one, as being an excellent counter attraction to the temptations of a city, and it might be worth the Commissioners' consideration to recommend the Education Department to give a grant to educational institutions for the teaching of gymnastics without the present restriction. But regarding this I have no strong opinion.

Although not connected with the Volunteer movement in Glasgow, I am aware of the excellent training in drill and other physical exercises which the various regiments impart. In the headquarters of these regiments, handsomely-equipped gymnasia are taken advantage of by the members of the corps. The Boys' Brigade likewise confer incalculable benefit upon their members, and I cannot speak too highly of the good that they are doing. No doubt, however, evidence of a direct character will be offered to the Commissioners by others better qualified to speak on these matters than I am.

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Foundry Boys' Religious Society: athletic clubs for boys and girls.

I should not forget to mention the work being carried on by the Glasgow Foundry Boys' Religious Society, of which I am president and a director, and with the work of which I have been actively and personally identified for the last twenty years.

Last year nine branches of the Society had athletic clubs in operation, with an average attendance at each club of eighteen lads per night. Three of these branches had clubs for girls, at which the average attendance per night was about fifteen.

As a result of a circular sent out recently to branches not presently carrying on athletic clubs, the committee learned that several branches were in favour of doing so, but could not as there was no available accommodation. The social reform department of the society offers every encouragement to branches taking up athletic work by assisting clubs to obtain the necessary apparatus on easy terms. The society work lies among the poorer classes of the city, and the consequence is that the lads and girls who come to the athletic clubs are not able to do much for the support of the clubs, the usual small subscription of 1s. per session being barely sufficient to pay the gas bill. It has been found in some of the clubs that the lads who attend for a winter or two are very much improved physically, while the drill develops a smartness which is lacking in those who have not attended the clubs.

Industrial schools: gratifying improvement in children due to physical training.

Evidence has, I understand, been presented on behalf of the Juvenile Delinquency Board, and I need not refer to the provision made by them in their industrial schools further than to say that the results of the instruction given in free gymnastic exercises have been quite remarkable, whether regarded physically, morally, or intellectually. An improvement also in the deportment of the children has resulted since this training has been developed. The drill and physical training in the industrial schools is conducted on the most thorough and complete description, and includes free gymnastic exercises, swimming, etc. The boys are also encouraged in all manly sports, such as football, cricket, running, etc. It is interesting also to know that the benefits derived from drill and other exercises by the girls in the Girls' Industrial School are very marked. They come from the slums in a poor emaciated condition, many of them where the rudiments of proper training are unknown, but they are not long in the institution before a marked improvement is evident. The girls enjoy the physical lessons they receive, and exhibit through them an alertness and quickness where slothfulnes used to be the habit.

Suggestions.

In conclusion I might venture to offer the following suggestions as to how the evil influence by which our youths are beset might be further counteracted, viz.: (1) more attention should be paid to the training in good habits and good manners both at home and at school; (2) a taste for good literature should be cultivated; (3) the extension of corps such as Boys' Brigades to all schools, such corps tending to improve boys in physique, manners and morals; (4) provision of better housing accommodation with decent surroundings; (5) punishment of parents who by their neglect allow their children to drift into crime; (6) schools might be kept open at night and provided with reading-room and gymnasia under proper supervision, provide training in handicraft, music, and other matters that could be followed with interest.

12,895A. Have you any further suggestions to make to this Commission as regards the terms of their reference?—Nothing further occurs to me.

Number of convictions increasing: growth of unruliness among the young.

12,895B. When you say that crime is increasing, do you think that it is crime that is increasing or that it is the police who are more active, and there is more detection of crime?—I am afraid that both things are at work. I don't say that the crime is increasing, but the number of those who are convicted is increasing. I am afraid

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there is a growth in the disorderliness and unruliness of our young people.

12,896. You rather attribute that to their surroundings?—Yes, these have a very great deal to do with it, as has also the lack of proper training, supervision, and control.

12,897. Especially control on the part of their parents?—Yes.

Larger provision of opportunities desirable.

12,898. *By Sir Thomas Glen Coats.*—You mention a great many schemes in Glasgow for the education of children, both physical and otherwise. Are the schemes, as they exist, adequate for all those who would willingly take advantage of them, or who at present are inclined to take advantage of them?—I am not quite sure as to what you mean. For example, I think a great many young people would take advantage of opportunities in the evening or on Saturday afternoons of recreation and exercise if opportunities were provided for them then, if the playgrounds of the schools were thrown open, or something of that kind. I think that a great number who at present just loaf about the streets would be very glad to take advantage of such opportunities.

12,899. My reason for asking is more to find out whether you thought you would require to give greater inducements to get the young people to go into these places?—Something might be done that way. I am not suggesting that that should be done, but until larger provision is made for their voluntarily taking advantage of drill or exercise, I don't think I am in a position to say that special inducements or compulsion are necessary.

12,900. In speaking about the physical training in evening classes, you referred to changes in the Code, obliging the students to take other classes besides physical training. You did not lay a great deal of stress on that yourself?—What I meant to say was that I quite appreciate the force of the arguments on the other side, but I have not come to any conviction on the subject so strong as to warrant me pressing a view.

Manners at school: direct instruction necessary.

12,901. I think the majority of the witnesses before us have advocated physical training being carried on as part of these evening classes, and they thought that there would be no difficulty in getting the students to take the other instruction as well, giving one evening to physical training, and other two evenings to that other instruction, or giving a part of both on each night. You advocate that more attention should be paid to the training of good habits and good manners both at home and at school. What would you suggest that could be done at school to attain this object?—Direct instruction.

12,902. Where are our schools wanting in that respect in the meantime?—Going along the street you see hundreds of boys, jostling, rude, and unmannerly to each other, not to speak of girls and their seniors, and one cannot but think that if these children were properly instructed in what is seemly, it would not prevail to the extent that it does.

12,903. Is it due to the fault of the teachers, or where do you place the fault?—I don't know that you can allocate the fault on any one spot and say that it is there, that if you remove it, it will be all right. I have not sufficient acquaintance with the conduct of day schools to warrant me even in saying that the children don't get sufficient instruction at school, but I am afraid they don't get sufficient direct instruction as to their proper conduct in their intercourse with each other and their seniors.

Continuation classes: compulsion impossible.

12,904. I don't think you say anything about the compulsory education of children after the age of fourteen in continuation classes. Do you think that that compulsion would be possible?—I am afraid not.

12,905. You think that if extra inducements were given in the way of physical training and gymnastics, and making the instruction as pleasant as possible, you could increase these evening classes to a large extent?—Yes, a great deal could be done.

12,906. But still there would be a large number that would not be brought in?—There is no doubt about that.

12,907. *By Mr Shaw Stewart.*—You speak of the facilities offered by the Corporation through the erection of gymnastic apparatus on playgrounds. Would you advocate gymnastic apparatus in playgrounds without instruction as taking the place of instructed drill?—No.

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Playgrounds: erection of gymnastic apparatus: caretakers appointed: very few accidents.

12,908. The erection of these gymnasia in playgrounds is merely to fill up gaps in the time of the boys on the street?—Yes, to afford them opportunities of enjoyment and exercise which may be comfortably and safely taken advantage of.

12,909. You would by no means seek thereby to lessen the amount of instructed physical training in schools and continuation classes?—No.

12,910. At the latter end of your evidence there is one recommendation that you make,—'the punish-'ment of parents who by their neglect allow their 'children to drift into crime.' Have you any particular scheme by which you could do that? Has any plan occurred to you?—No, I leave that to Parliament.

12,911. *By Mr Fergusson.*—In the first part of your evidence you referred to the ice-cream shops. I think I am right in saying that there is at present a Bill in process of being introduced by Mr Orr-Ewing dealing with that matter?—That is so.

12,912. We need not therefore go into that question now. As to these gymnasia that Mr Shaw Stewart was asking about, are they on the same sort of principle as Lord Meath's? Do you know his Children's Open-Air Playground Association?—No. There is a caretaker appointed to each playground.

12,913. You don't find any accidents?—I dare not say that there are none, but there are very few.

Athenæum gymnastic classes: high fees.

12,914. You speak about the advantages of swimming and the eagerness of people to use the swimming baths if they get the opportunities. You attribute the decrease in the attendance at gymnastic classes to changes in the Code, which I have no doubt Sir Henry Craik will deal with. As to the Glasgow Athenæum gymnasium having to be closed, don't you think that the trouble there may have been caused by the high fee charged, 21s., and by the fact that when that was found not to pay it was proposed to raise it? Don't you think that the better plan would have been to reduce it? 21s. is a large sum for the class of lads we are dealing with?—Yes, but the Athenæum deals with a class rather above those.

12,915. You can hardly put that forward as showing that boys don't want to take advantage of a gymnasium? You cannot expect them to pay 21s.?—There are really no boys who are members of the Athenæum.

12,916. The class that go to the Athenæum are rather above what we have in our mind?—Yes.

12,917. As one who is convinced of the value of the halfpenny fares in tramways, do you not think that the gymnasium might have been made cheaper than that?—That may be so.

Manners: improvement: philanthropic scheme.

12,918. Speaking as to what could be done at school, you have the general impression from what you see on the street that there must be some weak spot in the training of children in manners when they are at school, although you are not prepared to put your finger on any particular spot. Is there not a marked difference in the manners of children from different schools? Have you ever noticed that?—Yes, I have noticed that, but I think it is rather due to the fact that the different schools indicate children coming from a different locality.

12,919. You have never investigated further to see whether it was that the teachers took more trouble in the teaching of manners?—No.

12,920. How are you to get parents to look better after the manners of their children at home? Can you offer any practical suggestion as to how you are to induce parents to do that?—That is a very large question, and I am afraid I dare scarcely begin to enlarge on it.

12,921. Can you make any suggestion about it?—At this moment there is a scheme on foot which does not aim directly at that point, but which includes it. The scheme I refer to is one for the visitation of the

dwellings of the poor by ladies in well-to-do circumstances. Already several hundred, I may say thousand, ladies have been enlisted, and the scheme has been begun whereby there will be hints given and guidance afforded to parents in regard to various matters.

12,922. That is what we may call a philanthropic scheme; it is not one that the Education Department can deal with?—That is so.

12,923. With reference to your sixth recommendation, you have said that you don't see your way to using compulsion after school age. Your view is that there should be provision in continuation classes or otherwise for physical training on popular lines made as attractive as possible?—Yes.

12,924. You don't see your way to have compulsion?—No.

12,925. Has your attention been called to any scheme for dealing with the large class of loafers who drift into bad ways and become hooligans and criminals? If you have no compulsion, you will not be likely to attract such lads?—No. I have not heard of any direct scheme for grappling with that class apart from philanthropic efforts.

12,926. Have you seen a recent article by Sir Robert Anderson in one of the magazines in which he advocated what I might call an extension of the reformatory system, that these lads found wandering about the streets without any home or employment should be sent to a training ship?—Yes.

12,927. What was your opinion of the suggestion?—I thought it was extremely difficult, so difficult as to be almost impracticable.

12,928. *By Mr M'Crae.*—The statistics you have given us with regard to the increase of juvenile offences show an increase in two years of 1645. Are you quite sure that that is a real increase, that it is not due to a more rigorous supervision on the part of the police?—I cannot say to what it is due.

12,929. I notice that you divide them into two classes—first, those from twenty-one to sixteen years of age, and those from sixteen to twelve years of age. The increase is much larger among the younger boys than among the older ones?—Yes.

12,930. That seems to show that the rising generation is not quite so well-behaved as those who have gone before?—It would look like that, but the offences for which the younger persons are brought up are of a more trivial kind. A great number of them are brought up for such offences as playing football on the streets, which is a police offence.

12,931. That is just the point I want to be at. Were these offences really taken notice of in the same way some years ago?—Prior to 1899 they were.

12,932. To the same extent?—I don't think there has been any material difference in the class of offence that has been dealt with.

12,933. I notice that within this last year in the comparison between 1900 and 1901 there has been an actual decrease in the number of those ageing from sixteen to twenty-one, while there has been a very large increase in those from twelve to sixteen?—Yes. The older ones are practically stationary, being about 7900.

12,934. Do you think that these offences are really increasing among the younger people to the extent of about 30 per cent. in one year?—There is this perhaps to be said, but I don't know how far it might affect it: in 1901 we had the Exhibition. There was a general excitation in the public mind during the whole year, and a playground consisting of some six acres in which the young people used to play was occupied by the Exhibition. That possibly might account for a number that would be thrown on the streets.

12,935. Are these years the calendar year or the police year?—The police year is the calendar year for offences.

12,936. Are these gymnasia in the Phœnix recreation ground entirely outside?—Yes, they are in the open air.

12,937. You have nothing in the shape of a public gymnasium under cover?—No, not connected with the Corporation.

12,938. We all know that the Corporation of Glasgow takes very large views of its responsibilities. I would like to ask what is your view as to the Corporation providing gymnasia under cover for the use of the younger people in the different towns?—Do you mean for school children or for what we call halflins?

12,939. Say from fourteen to eighteen?—I am not prepared to advocate the Corporation providing gymnasia under cover for lads and young men without payment. I don't see why lads of that age who can spend their money on cigarettes and ice-cream should have this enjoyment provided for them by the Corporation without payment.

12,940. If it were thought advisable that some form of physical education was absolutely necessary for boys and girls between the ages of fourteen and eighteen, and it was thought advisable to erect such gymnasia, would you say that they ought to be under the control of the Corporation or the educational authorities?—I think they should be under the educational authorities.

12,941. They should really be a step from the day school?—Yes.

12,942. Of course, physical training is really compulsory just now in the day schools up to fourteen years of age?—Yes.

12,943. Do you think there is a sufficient amount of physical training given in the day schools now?—I don't think I have data upon which to form an opinion. You see I never was on the School Board, and I would not like to dogmatise on that point.

12,944. What is your view as to a cadet corps being established in connection with all the schools?—I took part in the formation of the High School cadet corps, and, from all I know of its working and its objects, I quite agree with it.

12,945. So far as continuation classes are concerned, you really think that the voluntary system has not had a chance?—I don't think it has.

12,946. You think before there is any suggestion of compulsion we should give a fair trial to physical training in the continuation schools, offering some inducement for the pupils to take advantage of that?—Yes.

12,947. You have not a decided opinion as to whether these classes should be taken in conjunction with mental subjects or not?—That is so; I have not sufficient knowledge of the whole case to warrant my giving any opinion.

12,948. You have had a large experience of public matters. Don't you think that physical training is of so much importance that a grant might be made by the education authorities for examination in physical training in the evening continuation schools?—I can quite well appreciate the argument on the other side. While physical training is undoubtedly most desirable, I am not sure that the encouragement to young fellows to spend their time in nothing but physical training without any connection with mental and intellectual acquirements is of any advantage. I sympathise to a certain extent with that view of it.

12,949. *By Mr Alston.*—I suppose the two classes of delinquents are boys and young men?—Yes.

12,950. We notice that while convictions against boys have increased by 831 in 1901 as against 1900, there is a decrease among the young men of 36. Is there any inference to be gathered from that fact?—In regard to the older ones, the numbers are so near to one another that I do not think there is anything in that trifling decrease. In regard to the larger increase among the younger ones, I have hazarded the only suggestion that occurs to me in regard to its explanation, but it is perfectly possible that a growing severity on the part of the police may account for a very considerable number. There is a considerable increase among the younger ones between 1900 and 1901. So far as playing at football in the street is concerned, a bright dry season would account for a very large number as compared with a rainy season. 1901 was a particularly sunny season.

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Youths from fourteen to eighteen: in advisable to provide free gymnasia: if erected, should be under Educational authorities.

Cadet corps approved.

Continuation classes: inducements preferable to compulsion.

Convictions: numbers: increase: methods of counting offences.

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12,951. And then you were taking open spaces from them for your Exhibition?—We took one large space.

12,952. How are the police convictions counted against an individual? Is John Smith counted one, and if he comes back twenty times is he twenty John Smiths?—Yes.

12,953. That is a very important point. If you say that the increase in crime in Glasgow is deplorable, it may be a repetition of these petty offences by the one boy?—Yes.

12,954. Is the same method followed in the English cities?—I think it is. There is never a case of previous conviction brought up against those boys, so that the magistrate cannot tell whether this is their first or tenth time. The police constable may be able to say that he has never seen a certain boy before, but there is no record kept.

12,955. In comparing the juvenile crime of Glasgow with the juvenile crime of Liverpool, the data are the same?—Yes.

Playgrounds with gymnastic apparatus: caretaker provided.

12,956. In nineteen places in the city you have got open spaces for children's playgrounds. I presume they have swings and other fixed implements for gymnastics?—Yes, a regular equipment.

12,957. Is there any supervision of the children there?—There is a caretaker.

12,958. Have you been troubled with many accidents?—Very few.

12,959. Is there any temptation in these open places to make the children play truant from school? Have you found that?—No, but we have not troubled ourselves with that. We think that the School Board officer can find the children in a playground much more easily than anywhere else, as the children are playing openly there.

12,960. Has the School Board officer been known to make raids on your playgrounds?—I have not found that.

12,961. You are perhaps doing the child an injury at one end while doing him good at the other end?—I have not found that.

12,962. You say you have opened gymnasia in certain directions in conjunction with the School Board. How does the Corporation come to take part in that work in connection with the School Board?—We had a conference with the School Board in order to get them to do it.

12,963. One would say that it was the business of the School Board to erect these gymnasia in the various schools and not the business of the Corporation?—I think the School Board do not recognise that it is within their function to spend money in that direction.

12,964. Many witnesses before us have given very strong evidence as to the question of the erection of gymnasia both in connection with schools and the city. Is it to the advantage of the children that such gymnasia have been erected by the Corporation?—Yes.

12,965. *By Sir Henry Craik.*—I understand that you feel that you have not experience enough to discuss evening schools in detail?—That is so.

12,966. I see that a subsequent witness raises the same point, so that perhaps I need not trouble you with it. You understand that certain considerations have been before the Education Department?—Yes, I quite understand.

The witness withdrew.

Mr T. W. Cuthbertson.

Mr Thomas W. Cuthbertson, examined.

12,967. *By the Chairman.*—You are the Treasurer of the Boys' Brigade?—Yes.

12,967A. Will you kindly read your *précis* of evidence?—

As you are inquiring into the opportunities for physical training now available in Scotland, I desire to bring to your notice the work of the Boys' Brigade.

Boys' Brigade: history: numbers.

The Boys' Brigade was instituted in Glasgow in 1883 by Mr W. A. Smith, a volunteer officer and a Sunday school secretary, who foresaw the value of drill and discipline as an educative force, and linked them to the highest form of education—religious teaching.

From a strength of 1 company, 3 officers, and 30 boys in 1883, the Brigade has now grown to 1100 companies, 4000 officers, and 50,000 boys in the United Kingdom; while in the United States, Canada, the West Indies, South Africa, Australia, New Zealand, India, and Ceylon, there are to be found further 35,000 members of the Brigade. And if we are fully to measure the direct outcome of Mr Smith's original company, we must include the kindred organisations which have since been formed on the same lines—the Church Lads' Brigade, the Roman Catholic Boys' Brigade, and the Jewish Lads' Brigade—making the total number of boys who are thus at present brought under religious influence and healthy physical training not less than 130,000.

In Scotland the parent organisation stands practically alone, and there the strength of the Boys' Brigade is 400 companies, 1600 officers, and 20,000 boys.

Object.

The object of the Boys' Brigade, as laid down in the Constitution, is 'the advancement of Christ's Kingdom 'among boys, and the promotion of habits of obedience, 'reverence, discipline, self-respect, and all that tends 'towards a true Christian manliness.'

Principal features.

Every company must be connected with a church or other Christian organisation. But the distinctive feature of the work is to be found in para. 3 of the Constitution, which states that '*military organisation* '*and drill* shall be used as a means of securing the 'interest of the boys, banding them together in the 'work of the Brigade, and promoting among them such 'habits as the Brigade is designed to form.'

Standard of drill high.

Every boy in the Brigade, therefore, is receiving a training in obedience, reverence, discipline, and self-respect, inculcated through the medium of military drill; and the standard of drill taught in the Brigade is by no means a low one. It follows, of course, that in an organisation of voluntary workers the standard varies considerably in different companies; yet on the other hand, the fact that the boys also attend voluntarily makes it necessary that the standard should be a high one, otherwise the drill would cease to have attraction for the boys. As a matter of fact, the standard is considerably higher than I have seen in any of our public schools in Glasgow; and further, the nature of the organisation promotes that *ésprit-de-corps* which is of such great educative value, and which does so much to promote efficiency. Our *Drill Book* is adapted from the latest Army book, 'Infantry Training, 1902.'

Membership confined to boys twelve to seventeen

Each company meets for drill at least once a week during a session of eight or nine months, and the membership of the Brigade is confined to boys between the ages of twelve and seventeen years. By taking them so young as twelve, we get hold of them before they have quite reached the stage of thinking they should be independent of control; and having thus got hold of them, we are able to keep them (if their hours of work permit) to an age at which they are fitted to pass into other organisations suited for young men. Over 8000 new boys joined the Brigade in Scotland as recruits last session; and as our members are increasing yearly, it may be reckoned that 9000 fresh boys per annum are coming under the influence and training of the Boys' Brigade in Scotland. While recognising that military drill is really a form of *physical* (as well as moral) *training*, the Brigade does not stop there; but, wherever possible, companies go in for physical exercises as well, and our *Drill Book* contains a variety of these. On this subject we have not been in the habit of asking for detailed statistics from our companies, but I have endeavoured to obtain some figures to lay before the Commission. In answer to an inquiry sent out the other day to the Scotch companies, we have replies from 227 companies, which show the

Physical exercises ph... military dri...

following numbers of boys being specially trained in the various exercises detailed below:—

Physical drill with arms, . .	6529 boys.
Physical drill without arms, .	4013 „
Free gymnastics, . . .	2022 „
Dumb-bells, ...	1768 „
Bar-bells, ...	453 „
Indian clubs, ...	547 „
Gymnastics with fixed apparatus,	798 „
Other forms of physical training,	805 „

In only thirty-one cases do the returns show that outside assistance has to be called in to give this instruction; in all the other cases it is given by the officers of the companies; and the average time devoted to this branch of the work is rather over two hours per week. To these figures will fall to be added a considerable number of companies where some physical training is mingled with the ordinary drill instruction at the regular weekly parade.

Another branch of work that receives considerable attention in the Boys' Brigade is *athletics*. Very many of our companies have a football club, cricket club, or swimming club, and some have all three. Swimming is, of course, restricted by the opportunities which the locality provides; cricket is a game that requires to be carefully fostered in Scotland; but football is the favourite recreation of all our boys. While we believe football in itself to be a good thing, and to have in it possibilities of the very best moral as well as physical training, yet its tendency in our cities, if left to itself, is often bad. Our aim, therefore, in this branch of work is to control and elevate the sports which our boys go in for, and to bring the best possible out of them. With this in view we form those clubs, referee the games and matches, teach the boy to play fair, to subordinate himself to the good of his team, to keep his temper, to accept the referee's decision, to be able to take defeat.

But while we in no way despise the value of such games, we do not place them on a par with drill and physical exercises as a moral and physical training. In a large city the space required, and the distance to be travelled to get to it, at once place games in a secondary position. The ground required for twenty-two boys to play football would suffice for the training of several hundreds in physical exercises. And it is probably only on a Saturday afternoon, and that in good weather, that the game can be played; whereas physical instruction can be given indoors and near the boys' homes on any evening of the week.

To get the full benefit of such games as football and cricket, time, money, and space are required to an extent that is quite beyond the reach of the majority of boys of the working-class. Drill and physical exercises, however, can easily, and comparatively inexpensively, be brought to their very doors.

Then there are our *summer camps*, held usually for a week, at coast or country, during the holiday season. More than a fifth of our whole strength took part in these last year. And, though they are not arranged primarily with a view to instruction, yet they are under military discipline, and drill is in most cases carried out each day. The early rising, the turn of duty, the tidiness and prompt obedience required, the morning drill or practice of physical exercises, the route marches, the organised games are of as much value, physically and morally, as many evenings of work during the winter. A well-directed holiday in the fresh air is of incalculable benefit to the class of boy who would otherwise spend the time in the close streets of a city, or among the questionable attractions of a popular watering place.

With regard to the clause in the terms of reference of the Royal Commission which deals with 'how such 'opportunities may be increased by continuation 'classes,' etc. it may interest the Commission to know that two years ago we made an experiment of working under the *Continuation Class Code*, and that with considerable success. The Code of 1900 contained a change which made this for the first time possible. Military drill and physical exercises were put upon a par with other educational subjects. Accordingly a few companies in Scotland arranged to work under the Code for a year as an experiment.

1901 Code: impracticable for companies to work under it: reasons.

The experiment was such a complete success in most cases that doubtless the practice would have become general, but next year the Code was again altered in such a way that it became almost impossible for our companies to work under it, and I do not know that any companies tried to do so last year. Military drill and physical exercises were again relegated to a subsidiary position, and could only earn grants in the case of pupils attending at least one other class. Further, the clause which restricts the payment of grants to pupils who are free from the obligation to attend school (the limit of age being now fourteen) struck off a considerable proportion of the strength of our companies from the possibility of grant-earning under the continuation classes code.

While it is not probable that every Boys' Brigade Company would bring its work under the Continuation Class Code, even if that were made possible, yet I think a large number of companies would avail themselves of the opportunity; and I am sure from personal experience that it would greatly add to the efficiency of those companies. For my own part, during the session in which my company worked under the Code, we found that the possibility of a visit from H.M. Inspector any night was the greatest incentive to good work and the surest preventive of any slackness. Besides, the grants thus earned would result in a great increase in the number of physical training classes within the companies by enabling them to obtain better accommodation, suitable appliances, etc.

Continuation classes: suggested conditions.

What would be required, however, would be practically the conditions of the Code of 1900, viz.:—

(1) That military drill and physical exercises should be recognised by themselves as subjects for which grants can be paid.

(2) That all boys of twelve years and over be eligible to earn these grants.

Of course it would be quite possible for a Boys' Brigade Company to take up some other subject with a view to making drill and physical work count along with it for a grant; but in a place like Glasgow, at all events, where the other subjects are better taught under the School Board, I consider that this would be very inadvisable.

Drill, however, is taught in most of our companies to a much higher standard than prevails in the schools, and the standard of our physical work is also high; so if these were recognised by themselves, it would be no case of our straining the letter of the Code to obtain a grant, but simply a recognition by the Code of our regular work.

Ambulance, doubtless, is one of our subjects, and is presently included in Division II. of the Code, but it is not a subject that we deem it wise to teach to any but our older boys, so it does not meet the case.

In a class like drill, where necessarily all our boys are instructed together, it would be necessary to include all boys of twelve years and over. And if it is desired to get boys to continue their attendance at drill and physical instruction after they are beyond school age, the surest way is to have them already in an organisation which will carry them on without any break in the continuity.

There are many other branches of Boys' Brigade work, such as the company bible-class, reading and recreation rooms, ambulance classes, and instrumental bands, but these, I presume, do not come within the scope of your present inquiry, so I need not enter into details of them.

Instruction: personal influence of officers.

In every branch of the work, the Boys' Brigade ideal is not to depend upon the drill sergeant or other outside assistance, but to have the work done by our own officers, without remuneration of any kind, and purely from love of the boys. So through it all we have the *binding influence* of the *Brigade* and the *personal influence* of the *Officers* which hold the boys together at an age when they would otherwise be impatient of

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control, and make them willing to place themselves under systematic instruction of various kinds, which they would not accept apart from the controlling influence.

12,968. Your *précis* of evidence is very interesting, and I will ask Mr Alston to put some questions to you on it.

Personal position and experience.

12,969. *By Mr Alston.*—For the information of the Commission, I will ask you your qualifications. You are a Captain in the 4th V.B.S.R., Hon. Treasurer of the Boys' Brigade at the Headquarters, member of the Glasgow Battalion Council, Editor of the *Boys' Brigade Gazette*, which is the official organ, captain of the 115th Glasgow Company, and associated with the 58th Glasgow Company, both of these being in connection with St George's Parish Church?—Yes.

12,970. You have had a large experience in the working of the Boys' Brigade, and have considerable knowledge of the boy himself and his environments, both at play and at home?—Yes.

National movement: numbers.

12,971. The Boys' Brigade of which you have given particulars is a national movement?—Yes.

12,972. It has companies throughout the United Kingdom, with its headquarters in Glasgow?—Yes.

12,973. The companies in the United States and our Dependencies abroad are affiliated to the home Brigade, but they are not managed by the home Brigade?—That is so.

12,974. They are modelled upon it, and they more or less accept the principles and methods of the Boys' Brigade?—Yes.

12,975. You say there are 1100 companies, 4000 officers, and 50,000 boys in the Boys' Brigade in the United Kingdom. Those figures are taken from schedules returned by companies?—Yes. These are round numbers based on the actual figures, which are 1100 companies, 4160 officers, and 49,165 boys, no company being included that has failed to make a report, even although it be known to be in existence.

12,976. You bring out the total strength in Scotland as 400 companies, 1600 officers and 20,000 boys?—Yes.

12,977. That is an increase of 35 companies on last year?—Yes.

12,978. Of the 20,000 boys in Scotland, how many are in the Glasgow battalion alone?—6000.

Glasgow battalion: classes of boys.

12,979. Glasgow, therefore, is a very representative field of the working of the Boys' Brigade, not only in Scotland, but in the United Kingdom?—Yes.

12,980. From what class are these boys drawn?—I should say that they were sons of the small shopkeeper, the artisan, and the unskilled labourer.

12,981. You can give an example of very low class boys?—Yes, my own boys in the Broomielaw are sons of quay labourers, who are men of very irregular occupation and very irregular habits.

12,982. What do you make of that class of boy?—I have found that the Brigade was even more successful with them than with the higher-class boys.

Lowest class tapped.

12,983. Is the supposition thrown out by one witness that the Boys' Brigade does not touch the lowest stratum of boy life, but includes only good boys, borne out by facts?—No. Of course to a certain extent you can see that with the Boys' Brigade, being an organisation that requires a certain amount of obedience and order from these boys, there will always be a substratum who will not always readily submit themselves to that, so that there are a few lower down that we may not get, but we go right down to the boys of the unskilled labourer, the ordinary 18s. a week labourer, and I think that we have boys of that class in very considerable numbers.

Boys' Brigade: interdenominational, not sectarian.

12,984. There is every desire on the part of the Brigade to get hold of such boys?—Yes.

12,985. Then the Boys' Brigade is interdenominational, not sectarian; most sections of the Christian Church have companies in connection with it, and it has been found to be a strong bond of union between workers of various churches?—Yes.

Military drill: beneficial effects.

12,986. You refer to the distinctive feature of the work, the military organisation and drill and so on. Has this special feature of military organisation and drill had the effect that was expected?—Yes, very markedly so.

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12,987. On the whole, what would you say were the results from the military organisation as applied in the Boys' Brigade?—On the individual boy?

12,988. Yes?—It smartens him up, it gives him physical improvement, and also by its discipline and obedience it gives him moral improvement. By its religious connection it works a religious improvement, and owing to the unit of the company with its officers and non-commissioned officers and the boys, it inculcates an *esprit de corps* parallel to the sort of school feeling that you have in an English public school. It is the only thing that seems to bring into the life of that class of boy the same sort of *esprit de corps* as is got in the best class boy in great English public schools.

12,989. Do you know any schools, or any method of dealing with boys, producing the same results as you get in the Boys' Brigade?—No.

Boys' Brigade and drill class, cadet corps, etc.; differential former introduces *esprit de corps*.

12,990. Would you differentiate between the Boys' Brigade and a drill class or a cadet corps at school?—Yes, very distinctly.

12,991. Will you give us some particulars?—A drill class at school seems to me to simply teach the actual points of drill or physical exercise which are in the curriculum, whereas the Boys' Brigade company introduces this feeling of *esprit de corps* and makes the boy a member of a unit, a unit in which he finds interest, not only for the hour of drill, but for many another hour of his life, as I have brought out in my evidence. That is the difference between it and the school class. I have some knowledge of the cadet corps, as there is one in connection with the regiment to which I belong. It, of course, gives the military instruction much better than the ordinary school drill gives, because it has the different ranks of officer, non-commissioned officer and boy, but, so far as I know, it does not enter into the boy's life further than the military side of it.

12,992. While a Boys' Brigade company is a military unit, it does not ape the army in any way?—No.

12,993. It does not have a uniform?—No, except a cap, belt and haversack.

Uniform: small expense; no objections by parents.

12,994. At what expense to the boy?—That varies. In a poor district, such as my own, we ask the boy to pay 6d. per annum for his membership to the company, and everything is provided. In a better-class company, where the boys are better off, a subscription of, perhaps, 1s. per annum is required. The boy in that case probably provides his own accoutrements of cap, belt and haversack at a cost of something like 1s. 8d., and he may probably pay a small subscription for the extra things such as the gymnastic class, perhaps 1d. a week, on the principle that they are able to pay for it; and the interest of a boy who is able to pay for it is generally greater if he does pay something for it. It is always a small sum.

12,995. You say he pays for his belt; is that correct?—In some cases, but more usually he does not. He usually only has to pay for his cap and haversack.

12,996. There is nothing in the way of cost to prevent a boy joining?—No

12,997. Practically the cost to the boy is the cost to the parent?—Yes.

12,998. There is no objection from that side in the matter of cost?—No.

Boys conspicuously smart.

12,999. Is it the case that boys who have been in the Boys' Brigade in many instances have been found conspicuous for their smartness in the eyes of the general public?—Yes, we have been told that in many a case.

13,000. You don't claim that the Boys' Brigade has done everything for the good of the boy, but, to a very large extent, you have attained these objects that you aim at through the work of the Boys' Brigade companies?—Yes.

Age limits, twelve to seventeen: reasons.

13,001. In your evidence, you have referred to the ages of twelve to seventeen; you don't enrol any boy before twelve, and every boy must leave at seventeen.

These ages practically cover a boy's life at a most critical period. Before that he is a child, and after that he is a young man?—Yes.

13,002. There is no reason for having boys younger than the one age and older than the other?—If younger boys were taken in it would militate against its success; you would cease to hold boys of fifteen and sixteen if you brought in boys so small as to be called 'kids.'

13,003. Some witnesses have objected that the Boys' Brigade does not take them in at an older age than seventeen?—Our view is that they are then ready for other organisations, either on the Church side or on the military side, if such is desired. That is to say, we stop at the age when they are quite eligible to go into the volunteers, although we in no way work the one into the other, we have no connection with the volunteers, but still the volunteers are open to them. We feel that a boy would not stay if he was able to go into the volunteers, whether he went in or not. He would no longer don boy's uniform when he might don man's uniform.

13,004. How would that affect the Boys' Brigade as against the cadet corps?—The cadet corps wear a full uniform.

13,005. Is that not a temptation to a Boys' Brigade boy as against his plain little outfit?—In the meantime there have been no cadet corps in Glasgow, or, as far as I have heard, in Scotland, which have really catered for the same class of boy. They have all been for rather a better class of boy. We have had no experience of the effect of the one as against the other.

13,006. Suppose, as a result of this Commission, a very large increase of cadet corps was encouraged throughout the Board Schools, would that affect the Boys' Brigade?—It would have some effect, but we have work to do still that would not be interfered with.

13,007. You have means of coming into touch with the boys that a cadet corps would not have?—Yes. An officer who came home lately from Australia said that there the cadet corps were very universal, but he said that where the Boys' Brigade was well managed—where it was not too much a repetition of what a boy got in a cadet corps, many boys belonged to both.

13,008. With so much emphasis laid on this distinct feature of military drill and organisation, a great deal of misapprehension has been felt on the part of the public as regards the meaning of the Boys' Brigade?—Yes, but as the Brigade becomes known that feeling diminishes to very small proportions; where the Brigade is not fully known it always exists.

13,009. Of course the Boys' Brigade has nothing at all to do with militarism or inculcation of the military spirit in its worst sense?—No, we don't find a larger proportion of our boys go into the army than of boys who have not been trained.

13,010. Would more Boys' Brigade boys go to the volunteers if there was more freedom as to the recruit drills required?—Yes.

13,011. That is to say, a well-drilled boy going into the volunteers would find it a great hardship to go through the same recruit drills as have to be gone through by boys who knew nothing?—That is so.

13,012. You have referred to the training you secure in the Boys' Brigade apart from the military training, and you have given a list of the boys who have received training in some seven or eight different branches of physical training in 227 companies?—Since that statement was handed in I have got it up to 240 companies, and can give any details that may be wanted.

13,013. That is about 60 per cent. of the whole strength, and would mean somewhere about 10,000 boys under physical training as well as military training?—Yes.

13,014. Is this capable of considerable extension?—Yes.

13,015. Can you conceive that every company of the Boys' Brigade might have ample and complete physical training in addition to its military training?—Not ample and complete owing to their not all being able to afford the necessary accommodation and apparatus, but to a considerable extent it might be done.

13,016. If that were possible, the field is there, at any rate?—Yes. I feel sure that if that difficulty were met, every company would do physical work as well as ordinary military drill.

13,017. You say that only in 39 cases has outside assistance been called in?—That is so.

Officers competent to instruct.

13,018. Are the officers capable of giving instruction?—I think that the very great majority are thoroughly competent.

13,019. They have studied under experts?—Frequently. In Glasgow the officers who train the boys in physical work have in almost every case been trained in the volunteer gymnasia, where an Aldershot instructor is very often to be found giving instruction.

13,020. You would have no fear of a Government Inspector coming round to examine your boys?—No, but you will always find a few weak companies anywhere.

Games effect great moral improvement in the boys.

13,021. You then refer to athletics to show how athletics receive very great attention in the companies of the Boys' Brigade, and how the officers especially take charge of athletics and sports and produce a high-toned influence on the boys when engaged in these sports. Can you point to any good results on this side of Boys' Brigade work?—I think that the best result we have found from athletics is the improved moral tone. That is the most marked result from training ordinary boys of the class that we deal with who don't in the first instance play games in what we call a sportsmanlike manner. We find that our games, which are always more or less supervised, result in a very great improvement in that direction, which I would say is an important moral factor in the boys' life.

13,022. In playing matches, you have had occasion to observe the conduct of a Boys' Brigade company as against that of boys who don't belong to the Boys' Brigade. There is a distinct improvement in the methods of the Boys' Brigade boys?—Yes, the absence of bad language is most obvious.

13,023. And temper?—Yes, it is greatly kept down.

Effects of training more far-reaching than those of games.

13,024. Great stress has been laid on the advantages of football. That is largely played by the boys?—That is entirely in the case of what I would call the better class boy. To get full advantage of such athletics there must be something of a gentlemanly feeling in the boy to begin with, or it must be taught to him, and that, of course, you will find in the boy at the good class boarding school or day school, but it is not to any great extent in our boys to begin with. We believe that the ordinary methods of physical training have a much better and more far-reaching effect upon the boy than the games can possibly have.

13,025. But the training results come out in the playing of the games?—Yes.

Summer camps: 10,000 boys out in 1901.

13,026. In the next part of your evidence you refer to the summer camps. How many boys altogether would be in the camps last summer?—I think there would be about 10,000.

13,027. And a due proportion of that number in Scotland?—Yes.

Officers have strong hold over boys.

13,028. We were talking about the peculiar attitude of the Boys' Brigade officer towards the boy in his company. It is quite different from the attitude of an ex-army sergeant drilling in school?—Yes.

13,029. It is different from the attitude of the officers in the cadet corps?—Yes.

13,030. The Boys' Brigade officers have a stronger hold on the boy?—Yes.

13,031. They have more knowledge of his character and his home surroundings?—Yes.

Smoking.

13,032. Among the other questions that must have arisen in all companies, has that particular hold of the officer over his boy had any influence in the matter of smoking?—Yes, to a considerable extent, but not absolute. There is this about it in the first place, that no boy is allowed to smoke in uniform wherever we can see him. That of itself is a distinct time when

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he may not smoke, and then we recommend strongly that that abstention should be carried out while the boy is in the Brigade.

13,033. Has there been any response to that?—Yes, to a considerable extent.

13,034. There is something done on a large scale in Perth?—Yes, but I believe much more in the influence of the individual officer in his own company.

13,035. It is admitted generally that cigarette smoking is a great evil?—Yes.

13,036. The Boys' Brigade has a very firm hold on the whole country?—Yes.

13,037. It is becoming more and more recognised by those who have to deal with boys, that the methods of the Boys' Brigade can hardly be dispensed with?—That is so.

13,038. Is the Boys' Brigade in a position to take a very important part in any scheme for providing increased facilities for physical training?—Yes.

Increase of training: Boys' Brigade in a position to give material assistance to any scheme for providing further facilities.

13,039. You really have a hold over a very large number of boys not only in the companies at present, but having passed boys through at the rate of eight or nine thousand in a year, a very large number of boys in Scotland have been through the Boys' Brigade?—Yes. That is the rate we are passing them through at now.

13,040. You perhaps have had an average of 2000 a year for fifteen years, and thus a great many boys now men with families have passed through the Boys' Brigade and been influenced by it.—Yes.

13,041. You think that it is an organisation that can take an important part in any scheme for the advancement of physical training among the boys?—Yes.

13,042. It will become an important factor in adding to the material strength of this country?—Yes.

Continuation classes: combination of different sorts of instruction: 1901 Code: application of grant.

13,043. *By Sir Henry Craik.*—With regard to this question as to the evening schools, I would like to ask you first with regard to the methods of your own organisation. The essential point of it is that to a certain amount of drill and physical training you add something else?—Yes.

13,044. You don't attend solely to the physical training, but you give them something for mental and moral cultivation?—Yes.

13,045. You think that the combination has an important educational effect?—Yes, we believe in that very strongly.

13,046. Is not that a considerable argument, if a change in the Code be made, that a certain amount of mental training be urged, not as an absolute necessity, but as a general rule under continuation classes?—The point I refer to here is not that we would ask the Code to do anything, but that the Boys' Brigade is doing a certain work on certain lines, and if it should seem advisable for the authorities to wish to encourage that work, then the lines of the 1900 Code are those on which it could be done.

13,047. You are aware that the 1900 Code was not nearly so advantageous to the continuation classes as the present Code generally?—I believe so.

13,048. At the same time that this slight restriction from which exemptions can be made was introduced, the grants under the Code were very largely increased?—Yes.

13,049. I only want to point out that in introducing restriction the Code followed very much the same principle that you in your organisation have adopted, that is of combining the different sorts of instruction?—I understand.

13,050. Have you attempted, what you are aware we have urged, that where there is an organisation for physical drill only it might form a partnership with another continuation class under different management, and we would consider that to be satisfactory under the Code?—We have not tried it here, the position being that we would not have a majority of our boys so qualified to count, and it really would not tempt a man to work that way only for a minority of his boys.

13,051. Do you think the School Board would not be prepared to form a partnership with you in regard to this?—I have nothing to say on that side. I have no reason to indicate that they would be otherwise than friendly, but it would not work in with our arrangement. What I want to be clear is that the Boys' Brigade work is going on and existing. The arrangement in that particular year seemed to me to give a possibility of greatly widening the work, but the Boys' Brigade goes on all the same without the assistance.

13,052. That arrangement which you made use of in 1900 only allowed you a very small grant?—From our point of view the grant was perfectly good. I would not urge for anything more, as it was quite satisfactory.

13,053. It came to 2s. 6d. a head?—Yes. I had a company of about 70 boys, and of these 70 about 50 took physical exercise, and 20 ambulance work, and the grant for the session's work amounted to nearly £30. My company was not the largest company, but it was one of the larger ones, and I can give details of the others.

13,054. Now, although you find that the Code restricts you in that way, if you saw your way to join in other subjects you would get a bigger grant?—Yes.

13,055. You recognise the objections that there are to applying a grant that is made by Parliament for education to what is solely physical training?—I recognise that there was that objection, but I take it that the attitude nowadays is to recognise physical culture as a much more important part of education than it was formerly thought to be.

13,056. Have you made any representations to the Department?—No.

13,057. You are aware that the Department is quite ready to consider any representations?—Yes.

Continuation classes: inadvisable to make physical work an essential part.

13,058. There is one other point with regard to those continuation classes. Would you advocate a rule under the Code by which physical training should be made an essential part of those continuation classes?—I don't think that that would do for evening work. In the first place, many of the fellows attending the literary classes have been doing hard physical work all day, and physical training at night would not be acceptable to them at all.

13,059. You don't think that a universal rule of that sort would do?—No.

13,060. *By Mr M'Crae.* Do you find that your boys on joining the Brigade have benefited by the training they have got in the Board Schools?—Do you mean as regards military drill work?

13,061. Yes?—No, we don't trace much effect of their previous school instruction in military drill,—at least, we have not done so as yet.

Board Schools: insufficient amount of training given.

13,062. The conclusion you would draw from that is that there is not a sufficient amount of physical training given in our Board Schools at the present time?—Yes.

Boys' Brigade if supported, might reach those not now under its influence.

13,063. The Boys' Brigade only give training to a small proportion of the youth of the country. While we all recognise the great advantage of the moral training you give them, can you suggest anything whereby we might reach the other class that don't come under your sphere of influence?—I think that anything in the way of support to an institution of the nature of the Boys' Brigade would immediately result in larger numbers being able to be taken on.

13,064. You said that the grant your company got under the Code of 1900 was £30. Can you give the Commission an idea of the total amount earned by the different companies in Scotland?—The whole thing was an experiment, and only a few companies were advised to take it up, as we did not know how it would work. Sir Henry Craik will be able to give the full figures, but I think that twenty companies took it up over the country, and their grant varied considerably according to the amount of work done. The highest I know of was £35, and I should say that the average was something like £15.

13,065. You say that the change in the Code made it almost impossible for the companies to work under it?—Yes.

13,066. That was because mental subjects were joined with the physical work?—And also that no boy

under fourteen years of age could any longer be recognised for grant-earning in an evening school.

13,067. Then what is to be done with those that you don't get a hold of? Suppose a cadet corps were established in connection with our Board Schools, and that there should be continuation evening classes at each of our Board Schools for boys over fourteen, and that some system of cadet corps should be continued, would that interfere with the working of the Boys' Brigade, would it be inclined to supersede it?—To a certain extent it would interfere with it, but if part of the work that the Boys' Brigade is doing were done by the State, then the Boys' Brigade would develop its other branches and work for the good of the boys, as I don't anticipate that the whole of the work that the Boys' Brigade does could ever be taken over by the State.

13,068. Your objection would be that they could not have the same moral influence over the boys that your teachers have?—There would be that difference. I don't call it an objection.

13,069. Is your system of physical training compiled from the Aldershot system?—Yes, entirely.

13,070. That is the infantry drill of 1902?—Yes, that has just been introduced this year. These returns of physical training that I have given have not been carried on from our book. As the result of the increased attention that has been given to these things now, we have incorporated them in our book. In fact, the rifle exercise book which is before you is only out this morning. Consequently I should say there will be a great increase in physical training now that we have put it in our own books.

13,071. Prior to the issuing of this book, had you a uniform system over Scotland, or did each teacher adopt his own system?—Everything we have is only recommended, but when it is given in the book it will become almost universal.

13,072. You give rifle exercises?—Yes.

13,073. Do you teach the boys shooting?—No, it is all dummy rifle work.

13,074. You don't think it would be a good thing if some of the older boys were trained to shoot?—We don't think that that belongs to our work.

13,075. Would it not be an attraction if the older boys could have practice at the Morris-tube?—We don't consider that we are entitled to take up that side of work. We use the military training entirely from its moral point of view.

13,076. It would be going rather much to the military side?—It would be rather beyond our duty.

13,077. *By Mr Fergusson.*—I rather gather that you have no suggestion to offer as to how the worst class of boys whom you don't get a hold of are to be got a hold of?—I don't for a moment mean that my answer to Mr Alston indicated that I considered that there was a large number of the worst class of boys outside of us. We get boys from all classes, and I don't think there is a large number left out. I merely wanted to be absolutely fair, and I said that there were some, but I don't think there is any larger proportion of them than of any other class.

13,078. Are you speaking for the whole of the Boys' Brigade, or only for the particular section you are in?—When I go into the smaller details, my experience is based on Glasgow.

13,079. From what one generally hears, the Boys' Brigade is supposed to get only the better boys?—That is not correct.

13,080. You made a suggestion that the Boys' Brigade might be taken over by the State?—I referred to the possibility of part of the work of it being done by the State.

13,081. Would not one of the results be that it would stop your flow of voluntary officers and so on. When people are taken over by the State they all want to be paid?—I don't mean the Boys' Brigade to be taken over. What I said was that if part of the work we at present do, the drilling, were by means of such an arrangement as has been suggested by some people done outside of us, then we would not need to lay so much stress on that branch of our work, and we would develop on other lines.

13,082. Is there anything else you would like to say in reference to that question about the difficulties in connection with the Code?—I don't think so. My attitude here is that you are enquiring into what is being done and what may be done, and I come more to let you know officially what is being done by the Boys' Brigade. In this point I take up a matter which the Code of 1900 practically offered to do for us and which was withdrawn. I thought I should draw your attention to it.

Continuation schools: training must be voluntary.

13,083. *By Mr Shaw Stewart.*—I should like to understand clearly your views about physical training in continuation schools. In answer to Sir Henry Craik, you said that you did not look with favour on the idea that every boy should engage in physical training at a continuation school?—I said that I did not think it would be looked upon with favour.

13,084. Because a good many of them are engaged in physical labour during the day?—Yes, very many.

13,085. Would you advocate making physical training in continuation schools optional?—Yes. I look upon continuation schools as entirely optional, and they should be so.

13,086. We have had a great deal of evidence now in the direction of making them compulsory?—That is rather apart from my position here, but I don't take that view of it.

13,087. If the physical training in continuation schools is optional, would it not be possible that a good many youths, more particularly those for whom physical training would be advisable, would through laziness, perhaps, or otherwise, escape this physical training in continuation schools?—To the same extent as they at present do, because by no means do a majority attend continuation schools at all.

13,088. We rather hope by some recommendation that we might improve things?—I am assuming that continuation schools as such are optional. They are not within the compulsory system of Scottish education. I think that whereas there would be some of the students who would take the literary classes without taking the physical classes, still I am satisfied that if the physical classes were put on an open basis similar to the others, perhaps a larger number would come in and take the physical classes.

13,089. That is to say, with the inducements that might be offered?—Yes.

13,090. *By Sir Thomas Glen Coats.*—Did I understand you to say that you considered that the Boys' Brigade, the Church Lads' Brigade, the Roman Catholic Brigade, and the Jews Boys' Brigade virtually cover the ground, as regards children, of the ages taken into these companies?—No.

Financial aid necessary to extend existing organisations.

13,091. Do they largely cover the ground, or do you think that they might be made to virtually take in all the lads of these ages?—Nothing apparently will ever take in everybody. I think that monetary support is necessary to extend these organisations, and if that were forthcoming then the number of boys would increase proportionately. We have never in the bigger places come to a point where we considered that by any means we had got all those who would be willing to come in if we could give them companies. I know at this moment one district in Glasgow which happens to be well populated, but rather sparsely supplied with Boys' Brigade companies, and one company there has had to refuse a large number of boys this year.

13,092. How does that arise?—That one company cannot become any bigger relative to the size of the hall accommodation and so on, and there is no neighbouring company for these boys to go to. Of course, we are trying to induce some of the bodies about to take the matter up. There are plenty of boys.

Boys' Brigade brings boys under influence of religious teaching.

13,093. All these boys are connected with some church or some religious body?—No, but as soon as they join the company they have a church connection. There is no previous church connection in the majority of the companies. A few who are very well supplied may only take boys belonging to their own congregation.

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but in a company like my own, we simply draw the boys off the streets.

13,094. Do you consider that a large number of the boys are brought under the influence of religious teaching from the inducements offered by the Boys' Brigade?—Yes, we believe that strongly.

13,095. Do you touch the girls at all?—No.

13,096. Have you any idea of taking up the girls?—No, we have our hands full with the boys. You may not be aware that there is a small organisation for girls called the Girls' Guildry, started in Glasgow, the originator being Dr. W. F. Somerville.

13,097. Would you consider it almost a necessity to have some such organisation for the girls?—I have not given that any consideration.

13,098. So far as their physical training is concerned?—I would rather leave that to others to judge.

Churchgoers: attraction of Brigade.

13,099. *By the Chairman.*—From what you have said, I infer that there are a great many schoolboys in Glasgow who are not churchgoers?—That is so.

13,100. And yet a great many of these are attracted to the Boys' Brigade, and then they are put into some church company?—Yes, being attracted to the Boys' Brigade brings them under the direct influence of the officers of that company, and the company is connected with a church.

13,101. Previous to that, these same boys have had nothing to do with any church?—That is very often the case.

13,102. How do they come? How are they attracted?—They are attracted by what they see. They will see the company marching out in their district some day, and that awakens their interest.

13,103. You have a good many boys between twelve and fourteen who are in the Boys' Brigade and who are still school children?—Yes.

13,104. They are able to make proselytes, as it were, in the school among their own fellow school children?—I think a boy has quite as wide a circle outside his school as inside. He has his own circle of friends, quite as large a circle as he has in school.

Continuation classes: boys attending day schools: exemptions: two grants.

13,105. *By Sir Henry Craik.*—With regard to attendance of pupils at continuation classes who are not free from the obligation of attending the day school, don't you see objections to the recognition of such pupils in continuation classes?—In the educational one I do, but not in the other, because the other gets at present such a very limited portion of attention within the day schools as far as I see.

13,106. If the boys are attending a day school, the proper way to provide for their adequate physical training is to provide it in the day school and not ask them to come back to a continuation class?—There is this about it, that we do get them. Suppose we had to wait till the age of fourteen before we got the boys, the question would be whether we would get any at all. We have got him at twelve or thirteen when he is still in the day school, when he is still under direct control, and we have formed a link with him and have a hold on him afterwards.

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13,107. You think it would be better in the case of some boys that at the age of twelve they should, even at the expense of the day school training, get more of the sort of thing that your organisation brings to them?—Yes.

13,108. You are aware that a School Board can grant exemption at twelve under special circumstances?—Very special circumstances, I believe.

13,109. Where it is proved to the satisfaction of the Board that it would be more for the benefit of the boy to go to work during the day and attend continuation classes in the evening, they are quite entitled to grant exemptions?—Yes, but what I rather refer to is the case of the boy still at the day school for his ordinary educational classes. There is nothing that entitles them to give any exemption from his inability to earn a grant in physical work in the evening school.

13,110. But he could earn the grant in the evening continuation school. They can do that under the Act of Parliament. If they think after consideration of the circumstances that that exemption ought not to be granted, but that the boy ought to go on attending the school in compliance with the Act of 1901 till he is fourteen, surely the best place for his physical instruction is at the school he is bound to attend. Do you think that the State ought to make two grants for the same boy, one in the day school and another in the continuation school?—Yes, I think so, with the present amount of physical instruction in the day schools.

Boys' Brigade: attendance Bible Cla Sunday School compulsor

13,111. *By Mr M'Crae.*—Is it the case that attendance at Bible class or Sunday School class is compulsory on all members of the Boys' Brigade?—To a large extent that is so.

13,112. Is there any exception?—There are exceptions.

13,113. Do you refer to companies or individuals?—In my own company, for example, I require that attendance on all who are Protestants, but not on those who are Roman Catholics. As a rule it is required.

13,114. Each company is connected with some congregation, and in connection with that there is either a Bible Class or a Sunday School?—Yes, but, of course, the company may be connected with any kind of congregation, and it is therefore quite universal.

13,115. That is part of the moral influence you bring to bear on them?—Yes.

The witness withdrew.

The Very Rev. D. A. Canon Mackintosh, examined.

Canon Mackintosh.

Canon Mackint

13,116. *By the Chairman.*—You are Chairman of the Committee of Management of the Roman Catholic Training College, Dowanhill?—Yes. The College, which is a residential one, is attended by female students only, of whom there are one hundred in residence, ranging in age from eighteen to twenty-three years. The students are the daughters of tradesmen, farmers, clerks, etc., and are preparing for the profession of teaching. The existing opportunities for physical training may be summed up as follows:—Drill is taught by qualified teachers of the College. The exercises are performed to a musical accompaniment, and the apparatus used consists of Indian clubs, poles, dumb-bells, etc. In these exercises every part of the body is brought into play, *e.g.*, toe, ankle, knee, wrist, elbow, head, eyes, etc. There are few games indulged in, and these are not organised or supervised. There is no playing field, but there is a good playground. Walks are taken daily, and at times longer excursions into the country. The students go through a regular course of voice training, according to approved methods. There is no gymnasium and no swimming bath. In the summer session three hours a week are devoted to drill. The results of the physical training are decidedly good, physically, morally, and intellectually. The development of the body is aided, and the physical powers are braced up, while habits of promptness, obedience, and attention are cultivated. Care must always be taken, of course, especially in the case of young women, that the training is not overdone. While it may be regarded as an important relaxation in the ordinary work of the students, still the danger of unduly exhausting the energy must be guarded against, and it would seem that a period of not more than twenty minutes in duration is quite enough to be devoted to it at a stretch. That amount of time per day might perhaps be regarded as a sufficient allowance. There would be no objection to some approximation to a uniform system of training, provided reasonable latitude were always allowed for the varying requirements of sex, age, health, locality, etc. In the College the laws of health are clearly taught, in relation to personal health, ventilation, and cleanliness of schools and class-rooms, healthy management of children in schools, and I may add that the students are taught and encouraged to keep their lecture-rooms clean and tidy by daily sweeping, dusting, polishing the floors, etc., all of which

Dowanhill Training College: residential, for female students; eighteen to twenty-three.

Existing opportunities. drill with music.

Playground.

Walks.

Voice training.

Results of training.

Uniform system: a objections if sufficie latitude allowed.

Physical education.

may be regarded as physical exercise of a by no means unimportant character. Further, they make their own beds, take it in turns to serve at table, etc., and on Saturdays they do a fair amount of laundry work in the way of folding clothes, sorting, and carrying to various destinations. The students are medically examined once a year, and the results reported to the Education Department.

There is no register of measurements kept. It is impossible to say to what extent the physical training received in College is continued and developed in after life, but as the students all go into the teaching profession, where they have to take charge of the physical exercises given to the children in their classes, it is but reasonable to suppose that their knowledge of and facility in physical exercises are at any rate maintained, and probably extended.

Speaking for the Roman Catholic Elementary Schools in this district, which rely for their supply of teachers principally on this College, I may say that physical exercises and military drill receive considerable attention in them. There are no regularly employed drill instructors as a rule; the instruction is given by the teachers—in the larger schools principally by masters who have undergone at the Training College at Hammersmith, from which our male trained teachers are drawn, a very thorough course of training in military drill.

If the Commissioners would care to hear my personal views in regard to the object of their inquiry, I should be glad to submit them. I am in hearty sympathy with the desire to promote in every legitimate way the physical training of the young, but there are some important preliminary problems that have a vital bearing upon the subject which demand earnest consideration before any comprehensive or effectual solution of the question of physical training can be arrived at. The regulation of the drink traffic and the better housing of the poor have a direct and most important relation to the physical well-being of the young. While the drinking habits that at present prevail among the people continue unchecked, and while so large a percentage of the population of our towns and cities dwell in slums, physical deterioration is bound to proceed, and it seems to me that a radical reform in these two directions ought to enter into the consideration of the means by which the physical culture of the young is to be best promoted. Further, speaking as a school manager and School Board member of many years' experience, I am convinced that enlarged powers should be granted to School Boards to compel regular attendance at school, especially as regards that large class of children belonging to careless and improvident parents, who are under no wholesome home restraint, who are only occasionally seen at school, and who consequently lose not only the physical training and military drill received by their fellows, but also miss the ordinary discipline and education of the school. These grow up stunted in body and undeveloped in mind, to be a weakness and a menace to the community. Educational authorities should have power to deal more summarily than at present with the parents of such children, and some scheme of mutual co-operation between School Board officer and police constable should be devised to compel the attendance at school of the irregular and the truant. The existing procedure in dealing with defaulting parents is cumbersome and slow, while its results are disappointing in the extreme. At present a large proportion of the children who most require the salutary influence of physical exercises and military drill are to a great extent deprived of it by their intermittent attendance. Personally I am in sympathy with the desire to have such exercises forming a prominent and essential part of the school work. I would have them given in a graduated system, beginning with the youngest classes and carried throughout the school, with military drill introduced at as early a stage as might be thought desirable. Where playground accommodation is insufficient or unsuitable, halls might be erected or rented, at the expense of the Government or municipal authorities rather than at that of school managers, in which the schools of a district might be drilled in relays of classes. If possible I should have the same training continued in the continuation schools as an integral part of their curriculum, and I do not think that such a demand would be resented if it were made clear that some such general plan of physical and military training was probably the only alternative to some system of conscription. This could all be done, I think, without resulting in any undue fostering or glorification of the military spirit, a result which I would certainly deplore.

Medical examination.

13,117. Have you any medical inspection of the young women at the College?—Yes.

13,118. Is it periodical or only occasional?—They are always examined medically on admission, and the result of that inspection is sent to the Education Department, and then they are examined periodically by the doctor.

13,119. Have you anything to show that at any time they are training they have been doing too much, or anything that would be injurious to them?—No.

13,120. Do you ever find out anything by this inspection?—Yes.

13,121. You think that it is of value?—Yes.

13,122. You could hardly get on without it?—We could get on without it so far. There has been hardly a case where it was necessary to discharge a student on account of ill-health.

13,123. Do you have male and female teachers at your College?—We have female teachers, and sometimes male teachers are called in for special lectures.

13,124. *By Sir Henry Craik.*—You have a good many small Roman Catholic schools under the charge of female teachers alone?—Yes.

Female teachers for boys and girls.

13,125. Both boys and girls attend these schools?—Yes.

13,126. Do you find that these lady teachers can carry on the physical instruction of both sexes quite well?—Yes. In some cases where the boys predominate, a drill instructor is employed to give military drill.

13,127. But if the lady teacher is sufficiently trained she can do so?—Yes.

13,128. And she finds her discipline helped by that?—Yes.

No medical inspection throughout R.C. elementary schools; but desirable.

13,129. Have you any medical inspection throughout your elementary schools?—I don't think that an organised system of medical inspection of the schools is in existence with us.

13,130. Would you think it desirable to have such an inspection?—I should certainly think that it would be a good thing, because nowadays so many children suffer from their eyes.

13,131. And teeth?—Yes, and in various other ways, so that I think it would be a very good thing to have.

13,132. But as voluntary managers you don't feel that you could go to the expense of providing medical inspection?—No.

13,133. Would you object to it being carried out through the sanitary authorities?—We don't mind who carries it out, provided that we don't have to pay for it.

13,134. Would the parents object to it?—No, I think they would be glad of the opportunity of having their child examined.

School Board's powers of compelling attendance.

13,135. You say that you are convinced that enlarged powers should be granted to the School Board for regular attendance at school. You rather refer to the means of dealing with parents who neglect their children?—Yes.

13,136. The powers of compelling regular attendance under the Act of Parliament are as great as they could be made?—What I really mean is this, that in the case of certain classes of the lower orders the powers are ineffective.

13,137. Is that from an unwillingness on the part of the School Board to put their powers into force?—No, but they are so slow and cumbersome, that it is a long time before these people are reached, and when they are reached and brought before the Sheriff, in a

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large number of cases the treatment is so ridiculously lenient that the whole thing is turned into a farce, if I may use the expression.

13,138. The Roman Catholic clergy support the more stringent enforcement of the compulsory powers?—Yes.

Continuation classes: training should be compulsory subject; but attendance voluntary.

13,139. You say that you would have the same training continued in the continuation schools as an integral part of their curriculum. In the continuation classes you think we might require physical training to be a constant adjunct as in the day schools?—Yes, I think it should be a Code subject both in the continuation classes and in the day schools.

13,140. They may earn grants for it in the continuation classes, but it is not necessary?—It should be made compulsory.

13,141. You don't see your way to make attendance at these classes compulsory?—I don't see my way to compel these lads to attend.

13,142. Of course you would induce them?—Yes, but that is a great difficulty. It would be a very great advantage to them if they would attend.

13,143. *By Mr Fergusson.*—I think you said in answer to Sir Henry Craik that you were in favour of medical inspection so long as you did not have to pay for it. Who should pay for it if it be not the School Board?—I don't represent the School Board.

13,144. I thought you were talking then with reference to School Boards?—No.

Suggested means of dealing with truants.

13,145. With reference to the difficulty of dealing with those children who don't attend school, your experience is that some time has to elapse before you can pull up the parents, there are all sorts of formalities to be gone through, and then they are brought before the Sheriff, and he reprimands them, and the parents move to another place, and the whole thing goes on again?—Yes. I would venture to say that there is far too much regard given to the 'liberty of the British subject' bogey. I think that the police officers both in town and country should be furnished with a list of all the children of school age in their districts; the School Board officer could visit the school and report the worst cases to the police officer on his beat, and then it should be dealt with as a crime against the ordinary criminal law of the country, because it is really neglecting a most important and vital duty. These people should not be trifled with. At present they feel they are being trifled with, and it makes no impression on them. As Mr Fergusson has remarked, a negligent parent in a certain locality goes through the process, and then as soon as that is finished he moves to another district, and the process begins again.

13,146. Do you think it would be desirable that when a new family comes to a new district the School Board should make some inquiries as to where that family came from and how they stood in the school district? If you got from the former district a report that they have been evading education, then you should deal with them in a summary way?—I think that that is done by the School Board officers, but that does not help matters, because you have no summary mode of dealing with them.

Continuation classes: drill.

13,147. I think you rather suggested that physical training should be made a compulsory part of continuation classes?—I don't see any other way of having it secured.

13,148. What do you say to what some other witnesses put before us, that if a lad has had a hard day's work it is rather severe on him to say, 'You must take 'a course of gymnastics,' when what he really wants to do is a little mathematics or something that is good for his trade; would you still insist on his going to the physical exercises in the evening?—Circumstances alter cases. It is not gymnastics I should suggest for the continuation classes, as these would be perhaps too violent; it is rather ordinary drill, which would, I think, entail no exhaustion.

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13,149. It would be subject to exceptions, of course?—Yes, it would have to be arranged.

13,150. *By Sir Thomas Glen Coats.*—Have you a Roman Catholic Church Boys' Brigade in Glasgow?—No, it has been tried, but somehow or other it has been found not to succeed. It has not been taken up generally.

13,151. *By Mr M'Crae.*—You say that in your training college drill is taught by qualified teachers. Is there any particular system that you adopt, or any manual that you follow?—We have no manual for ourselves, and I am not in a position to name the system that is followed, but I know that the exercises are taught on some approved system.

System in training college.

13,152. It would really be the system taught at Hammersmith?—Not necessarily, because there is no connection between the two.

13,153. But you say that the masters have undergone training there?—Yes, I think they would have what is called the 'model course.'

13,154. Under the Education Department?—Yes, of England.

13,155. You think that is what is adopted?—Yes.

Time devoted in R.C. elementary schools.

13,156. You say that physical exercise and military drill receive considerable attention in your elementary schools. Can you give any details as to the number of hours in the week that are devoted to physical training?—I am not exactly able to say, but I should think that twenty minutes or so are devoted every day to some class—that is to say, a class to-day and another class to-morrow.

13,157. One class would not get more than two days a week?—Possibly.

Govan School Board carries on efficient and sufficient training

13,158. You have been a School Board manager. What is your opinion as to the sufficiency of the physical drill given in the Board Schools at the present time?—I am a member of the Govan Parish School Board, and I think that, as conducted under that Board, it is both efficient, and I might say sufficient. There are drill instructors attached to each of the schools, and the Govan Board make a speciality of it. They occasionally give exhibitions which I think are highly approved of, and praised even by military gentlemen who have been invited to witness them.

13,159. Would you say that in your opinion a sufficient amount of time is given to physical training under the Govan School Board?—I am not exactly prepared to make a definite statement, because I don't carry the time-table in my mind.

13,160. *By Mr Alston.*—With reference to this point about larger powers to School Boards to compel attendance, you deal with parents who may be careless or improvident, but they may also be unable, as in the case of a widow, to attend to their children. You say that they are let off with just a reprimand?—As a rule that is the case.

No Catholic day industrial school in Glasgow.

13,161. Do the Day Industrial Schools not help you with your children?—So far as Catholics are concerned we have no Day Industrial School. The Day Industrial School conducted under the Boards would not meet with our approval. Our children could not go to the Day Industrial Schools unless they were under our own supervision. As a matter of fact, none of our children go to the Day Industrial Schools of the Glasgow Board.

The witness withdrew.

Mr C. J. Cunningham.

Mr Charles J. Cunningham, examined.

Mr C. J. Cunningham.

13,162. *By the Chairman.*—You are headmaster of St Mary's Roman Catholic School, Duntocher?—Yes. I am a Trained Certificated Teacher of the Second Class, and was trained in Hammersmith Training College for two years, 1883–84.

Since the month of January 1885 I have been engaged in teaching in Roman Catholic Elementary Schools in Scotland—in Edinburgh, Glasgow and Duntocher. After acting as assistant in Edinburgh and Glasgow for nearly twelve years, I took up my present

position of headmaster in St Mary's R.C. School, Duntocher, in April 1896, over six years ago.

The school is situated in the county of Dumbarton, about nine miles from the city of Glasgow, and about six miles from the town of Dumbarton. Duntocher has no direct railway communication with either of these places, the nearest railway station, Dalmuir, being about two miles away. The only large centre of population in the near neighbourhood is Clydebank, which is two miles away. The school is a mixed one, consisting of boys and girls whose ages range from four to fourteen. The average number of scholars on the roll last year was 357·6, while the attendance was 293·8, as shown in Form IX.

The parents of the children are mostly factory workers engaged in Singer's Sewing Machine Works at Kilbowie, two miles from the school, while a few of the men are engaged in the shipbuilding yard at Clydebank. There are also a few labourers.

The children are usually well fed, as work is plentiful in the neighbourhood, and the wages fairly good, but in necessitous cases both food and clothing are supplied by the managers. The clothing of the children is on the whole good, but in a few cases admits of improvement.

Most of the children reside in the village, within a few yards of the school, with the exception of about twenty or thirty who come from Old Kilpatrick, a distance of two miles, and perhaps a dozen who come from Hardgate, a distance of one mile.

The system of training in the school is that taught by Thomas Chesterton (with and without dumb-bells), late chief instructor at the Aldershot Gymnasium, and is practically the same as that taught in the British Army. The physical exercises begin in the infant department, where they are done to music without dumb-bells, and are continued right through the school, the dumb-bells being used only in the upper classes—Standards IV., V., and VI. I introduced this system over six years ago, when I took charge of the school, and it has been practised by one or other of the classes daily ever since. The training is done by myself and assistants, one of whom was trained in Hammersmith Training College by Mr Chesterton, who is instructor there.

About 2½ hours are spent every week in physical drill by the various classes in the school.

There is no military drill attempted in the school.

The pupils are very fond of the physical exercises, especially those who are allowed to use the dumb-bells, and they have had a good effect on the discipline and tone of the school. The inspector's report a year or two after I introduced these physical exercises contained these words: 'The order and discipline was perfect in 'all the classes.' On another occasion the report said: 'Drill forms a commendable feature,' and nearly every year some mention of the physical drill is made in the Inspector's report.

13,163. Has he spent much time in the inspection of physical drill?—Just going through the top classes.

13,164. He has not inspected every class?—No.

Some of the classrooms have spaces in front of the desks, and there is a small playground with a covered shed outside, where physical drill can be done by one class at a time.

13,165. I suppose you often play in the shed?—Yes. We have very good air round about us, so that we do not require to go round to the playground, and time is thus saved.

Football is played by all the boys, and there are at least two or three football clubs in every rural school. These are not organised by the teachers, but they usually subscribe to the funds, while the managers in our schools often present the boys with balls, etc.

Evening continuation classes were held in 1896, 1898, and 1899, and the Inspector's report said in 1898:

'In the matter both of attendance and of thorough-
'ness of instruction, this evening school is one of the
'most successful in the district. The higher grant is
'heartily recommended.' It was not so successful in 1899, as many of the men had to work overtime at night, and so were unable to attend. Last year there were no evening continuation classes for the same reason.

13,166. Are they likely to recommence?—If the men were not working overtime, they would come and bring the lads with them. When they don't come, then the lads don't come either.

There was no physical training in these classes, but if a hall properly fitted up were attached to the school, and a qualified person appointed to take charge of the physical training say one night per week, I have no doubt it would make the evening classes more popular, provided the Government bore the expense, but if the voluntary schools were called upon to pay for the physical training of these young men, it would simply put an end to the classes altogether.

The majority of the pupils after leaving school are employed in Singer's Sewing Machine Works, some of the girls find employment in the mill, or work in the fields, and a few of the boys, after working in the machine works for a few years, join the army or go to the shipyards.

Children healthy

The children at school are very healthy as a rule, and except an epidemic of measles now and again, there is hardly any sickness among them.

Medical examination unnecessary.

There is no regular medical examination of the pupils, but if a child appears to be suffering from sickness, the mother is sent for and advised to take it to the doctor. Sometimes children are sent home if they have sore eyes or any open sore which renders their presence in school undesirable. I don't think any regular medical examination necessary unless the children appear to be suffering from disease of some kind.

13,167. Not even for physical exercises?—No, I don't think they hurt any at all.

Training should be compulsory in all schools, and for those between fourteen and eighteen.

I think some kind of physical training should be compulsory in all schools, and also for those between fourteen and eighteen years, and I think that is the opinion of most of the teachers in the voluntary schools in this district.

Training colleges: all teachers learn physical drill.

The teachers in our schools learn it in the training colleges. Physical drill forms a very important part of the curriculum in Hammersmith Training College, where all our masters are trained, and also in Dowanhill Training College, where most of our female teachers are trained. Drill of some kind has been taught in Hammersmith for years, and has always been thoroughly enjoyed by the students in training. I was taught military drill there eighteen years ago by a thoroughly-qualified instructor who had been a sergeant in the army. Teachers could easily learn physical drill at special classes for teachers only, to be held on Saturdays for an hour, care being taken that these classes were taught by thoroughly competent persons properly qualified to teach the subject properly.

Teachers: certificates granted, but not necessary

13,168. Do you know whether the teachers have to pass an examination; do they get a certificate showing that they are qualified?—Yes.

13,169. You get your teacher with the certificate?—Yes, but the one I have just now has not got one.

13,170. You don't require it?—No.

13,171. Don't you think you ought to require it?—It would be as well, I think, to have one, but they may be able to teach just as well without one.

13,172. Before engaging a teacher, would it be your habit to see the teacher go through teaching exercises?—I don't think so.

13,173. You don't think it is important enough?—I think it is quite important enough.

13,174. You don't think so or else you would say so?—I think it is, but they have been trained in Hammersmith for two years.

13,175. But they come without a certificate?—Sometimes. Sometimes they don't care to go in for it.

13,176. If they come to you and have some knowledge whether they can teach or not?—I see them doing the exercises.

No loafing in those between fourteen and eighteen: all anxious for employment.

There is really no loafing properly speaking in those between fourteen and eighteen years in the village, as boys and girls are sent to work as soon as they are

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fourteen years of age. The children as a rule are eager to get to work, and the parents only too willing to send them, as they often need the money they are able to earn very badly. Of course in the evening, after work is over, the class referred to walk and stand about the streets a good deal, but this seems to be their way of getting fresh air and gentle exercise.

Church halls in every parish.

In every parish there is a League of the Cross hall in connection with the church, where the young men play billiards and other games. These halls are also supplied with good literature in the shape of papers and books, and the halls are always well filled, especially in the winter season. The young men who attend these halls are all total abstainers, and the halls have done a good deal towards keeping them from the public house and the street corner.

Continuation classes would become popular if physical instruction given.

I think physical training would make continuation classes popular, provided a properly-equipped hall were fitted up and placed in charge of a competent instructor, where pupils could be drilled say one night in the week; but the money must come from the Government or Local Authority, as the managers of voluntary schools would find it impossible to maintain such a hall by voluntary contributions.

No rifle club.

There is no rifle club in the village in connection with the Catholic body, but there are at least two football clubs whose members mostly belong to that body. Physical drill is the only form of drill taught in our schools. Dumb-bells are used in the upper classes, and the parents highly approve of the physical exercises done by their children.

The physical training has the effect of making the children orderly and promptly obedient. It is sometimes used to rouse them up when they are inclined to be lazy or disorderly, and always with good effect, while the benefit it has had upon their general health is simply incalculable.

Physical education.

The scheme of nature knowledge lessons takes in all about the laws of health, clothing, food, ventilation, etc., and is taught throughout the school.

Attraction for lads fourteen to eighteen: gymnasium with competent instructor: organised walks in country.

To attract lads between fourteen and eighteen years of age I would suggest a properly-equipped hall or gymnasium under the charge of a competent instructor, if possible, in connection with an evening school. The Catholic parents are very careful about the morals of their children, and would not allow them to attend such a hall unless it was placed under the management of a committee appointed from their own body. If those conditions were carried out, I have no doubt that such a hall would be welcomed by our people in every village, and would attract a great many of the lads between fourteen and eighteen years of age.

Then in the fine weather properly-organised walks, under the charge of the instructor or other competent person or persons, would teach the lads to hold themselves properly when walking—a thing very few of them do at present—foster a love for long walks in the country, and do away with the lounging about the streets which is so prevalent at the present time.

13,177. Can you further suggest how you would provide that these should be paid for?—That is just the question.

Suggested erection of halls.

13,178. What is your suggestion?—Of course the Roman Catholics as a body have to pay a very heavy school rate; we don't get one penny towards our schools, so that we have to keep our own schools to a certain extent from our own pockets. I don't think that they would give us the hall, but if you would give us the hall from the local rates, then I think that they would become popular. From fourteen to eighteen years of age is a dangerous period of life, and then these lads might be tempted into gambling in a place like that. We want to have a control over these lads.

13,179. Are you speaking for yourself?—That is the opinion of the Catholics.

13,180. Your connection with the lads as their master ceases when they reach the age of fourteen?—Yes.

13,181. And it is somebody else then who comes in as their authority?—Yes. It might be myself if it was an evening school.

13,182. *By Mr Fergusson.*—You say that you use Chesterton's system. Have you experience of any other system?—No.

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13,183. You say there is no military drill attempted in the school?—That is so.

Chesterton's system: physical drill.

13,184. How does the inspector come to report that drill forms a notable feature?—He means physical drill. I don't mean marching and the like of that; I simply mean exercise with dumb-bells.

13,185. You don't do any marching or forming fours?—No.

13,186. You don't think that any medical examination is required?—No.

Medical examination.

13,187. Do you find that there is a good deal of trouble with children's eyes and teeth?—Not so much with us. We are more apt to find skin disease, and when we do find that we send the child home.

13,188. There is nothing of that sort that a doctor might call attention to and which you might not notice?—No, the children with us are very healthy.

13,189. But still medical inspection would do no harm?—No; but what time would we have for it?

13,190. Suppose three minutes to each child, once every sixth months?—If that could be done it would be all right.

Training: compulsion practicable with Catholics.

13,191. *By Mr M'Crae.*—You think that physical training should be compulsory in all schools, and compulsory also for children between fourteen and eighteen?—Yes.

13,192. How would you make that effective as regards those between fourteen and eighteen?—We would want legislation.

13,193. Supposing you got legislation?—My suggestion is that if we had a properly-equipped hall in connection with our body, managed in the same way as our schools are managed by the body of Catholic managers, we could make them attend if we liked.

13,194. You are speaking just for your own body?—Yes.

13,195. You have not considered the question whether it could be made compulsory over the whole country?—No.

13,196. There was one remark you made with regard to the continuation schools; you said that when the men were working overtime the young lads did not come?—Yes. Duntocher is a small place, and there were only about forty lads left, so that it was not worth while carrying it on.

Public gymnasium: suggestion special facilities for Catholics.

13,197. Supposing a public gymnasium was established, do you think that the Catholic parents would object to their children attending if it was under proper control?—I do not think they would, provided the Catholic body had a chance of seeing that the gymnasium was properly conducted.

13,198. You don't mean to say that it would be a *sine qua non* that there should be a Committee of your own body to manage it? If it was under the local authority, you would be quite willing that the children should go?—Yes, if we had a chance of going in and seeing that the place was properly conducted.

13,199. So you would alter your statement in this way, 'I would not like them to attend such a hall unless it 'was placed under the management of a Committee with 'sufficient representation from our body'?—Yes.

13,200. As it is, you limit it to a Roman Catholic gymnasium?—It would be more popular if they had one for themselves.

13,201. But if it was possible to work one for the whole community, you would be quite satisfied if there was a sufficient representation on the Committee of management from your body?—Yes, and if you would give us one night in the week to ourselves for our own young men.

13,202. You would not approve of your young men going in on ordinary nights even although your body were represented on the Committee?—No, I think they should be kept separate. We want some control over our lads at that age.

13,203. You would wish to have one night in the week under your own control?—Yes.

The witness withdrew.

Miss MARY ANDERSON, examined.

13,204. *By Sir Thomas Glen Coats.*—You are head mistress of the Ferguslie Half-Time School, Paisley?—Yes.

13,205. How long have you occupied that position?—Since the opening of the school in 1887.

13,206. And previous to that?—I was for about a year in the Maxwelltown Half-Time School, and previous to that in the Stow School and the Free Normal College.

13,207. You give certain reasons why children attending school every alternate day are as far up as the children in the Board Schools?—Yes.

I bring forward the following reasons as to why the scholars in above school are able to obtain as good results at their annual inspection as those in the Board Schools, where the attendance is double:—

(1) The school has always been exceedingly well staffed, no pupil teachers nor ex-pupil teachers, but certificated Normal-trained teachers having been employed.

(2) The classes are smaller than in the Board Schools, and thus the teachers get at the scholars individually, and gain a more personal influence over them than when grouped in larger classes.

(3) Being in close alliance with the mill, it has always been an easy matter to gain excellent discipline, which is a great aid in securing excellence in all school work.

(4) The school itself and its environments are so particularly bright and beautiful that their effect cannot but be good. The mind as well as the body is bound to be healthier, with fresh air, good light, and bright surroundings.

Then, again, as to the effect on the health of the girls while working half-time and afterwards, I must say, as far as my experience goes (and I have been in the school since its opening in 1887, and have enrolled 3335 scholars), that the girls here are as healthy and attend as regularly as those in any school in town, while they develop into quite as strong women as do those who begin work at fourteen years of age or over it.

I have had many talks with my old pupils, who never seem to regret the years spent in half-time, but rather look back with pleasure to that period of their lives when they worked in the mill and attended school each alternate day.

Individual examination ceased in the year 1890 for all except Standard V., and in 1897 for Standard V.

The following matter furnishes the Inspectors' Report on the school from 1891 to the present date:—

5th December 1891.—The appearance made in the examination gives evidence of continued zeal and ability on the part of the teachers. With very little hesitation the mark of excellent is given for the standard work. The style of reading and the neatness of writing and figuring are specially commendable.

The class subjects of English, geography, and needlework are distinctly good. Order and discipline are excellent, the demeanour of the girls being altogether very pleasing.

15th November 1892.—The school continues to be conducted with most gratifying success. The teachers are skilful and earnest, and they receive in their work the thoughtful and liberal support of the managers. Reading is particularly good in respect of both clearness and expression. The written exercises are very well set down, though in one of the divisions of the Fifth Standard there is a tendency to rather small a hand, and the general proficiency in arithmetic is fully above the average. The answering in the class subjects of English and geography is quite good, and needlework is taught with much care and very good success. Excellent discipline is maintained, the behaviour of the girls during both days of the examination being unexceptionable.

1st December 1893.—The school continues to be conducted with vigour and intelligence, and the results of the examination are in every way creditable to Miss Anderson and her assistants.

A large number of the girls have been very well instructed in practical cookery, the arrangements for which are of a very complete and satisfactory character.

21st November 1894.—The school retains in all respects its very satisfactory character.

6th December 1895.—There is no falling off in the high standard of efficiency hitherto attained in this school, and the results are all the more creditable under the circumstances of the past year.

11th December 1896.—The marked efficiency of the school continues to reflect great credit on both teachers and the managers.

23rd November 1897.—The school continues to be conducted with much ability, and the appearance made at the examination is in all respects most creditable.

30th November 1898.—This admirably-equipped school maintains its high standard of efficiency.

29th December 1899.—The organisation, discipline, and instruction of this school continues to be highly satisfactory in all respects. Many of the written exercises of the pupils are models of neatness and accuracy, and the oral part of the examination, including reading and recitation, give evidence of careful and intelligent training. The needlework requirements are very amply fulfilled. Singing, drill, and practical cookery receive due attention.

7th January 1901.—The high standard of efficiency which has characterised this school continues to be very well maintained.

I am directed to enquire whether the names of the following scholars, who appear to have illegally withdrawn from work, were brought under the notice of the School Board:—Numbers 3073, 2997, 3129, 3137, on the admission register.

I am also to request that you will be good enough to state the date and place at which the scholar No. 3080 was examined for the labour certificate.

10th December 1901.—This school continues to enjoy all the conditions of success: excellent accommodation, an ample and efficient staff, and the helpful supervision of the managers, and the result, as usual, is of a highly creditable character.

13,208. It has been said by a previous witness that the children who are most diligent in this half-time school are rewarded by better employment in the mills?—I consider the statement made by Mr Taylor to be erroneous. The promotion is carried on by the length of service, provided the girls are fit for the work that is given them. I always knew that, but, since reading Mr Taylor's evidence, I have inquired into the matter. The school is quite apart from the mill in regard to promotion. Of course, the clever girls at school are bound to be clever in the mill also, and industrious girls at school will also be industrious in the mill.

Personal experience.

13,209. State your qualifications, degrees, experience, number of years in present position, position of school, number of scholars, average attendance?—Normal-trained certificated teacher, assistant under the Paisley School Board from Christmas 1880 to Christmas 1885. At that time appointed mistress of the Maxwelltown Half-Time School, and transferred in 1887 to my present situation. Number on roll at midsummer, 135; average, 61·4 per day.

Ages of pupils.

13,210. What are the ages of your pupils, youngest and oldest?—Youngest pupil eleven years of age; oldest does not exceed fourteenth birthday. The age for being admitted half-time is twelve now. Some get in at eleven. No girl remains in our school after her fourteenth birthday, so that the ages range between twelve and fourteen.

Class of children

13,211. What are the position and vocations of the parents?—Parents of the working class, employed in engineering yards and manufactories in town. Some are merely labourers.

13,212. Are these children of the same class as the average children in the Board Schools?—Yes.

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13,213. There is no difference?—I see no difference.

13,214. Are the children well fed or the reverse at home?—On the whole, children are well fed.

Food and clothing: none supplied.

13,215. Are any meals supplied by school or other authorities?—No meals at school.

13,216. Any clothing of children supplied?—No.

13,217. Name the distances most of the children have to come to school?—Most of the scholars live a few minutes' walk from school. Some come from Inkerman and Elderslie, half an hour's distance.

13,218. Give in detail time-table of school?—There are now only four classes each day, corresponding to (1) Standard VI., (2) Standard V., (3) Standard IV., Upper Division, and (4) Standard IV., Lower Division.

13,219. Are most of the children encouraged to remain till after they have passed the sixth standard, or its equivalent?—We have a few, but not a great many, who remain till they have passed standard six. Many would like to leave at thirteen, who have not got through the sixth standard.

Exemptions.

13,220. By whose permission are they allowed to leave?—They get a paper of exemption from the School Board, and this is filled up by the parents, giving their name, address, wages and number of family, and the wages of the family. The total is taken, and if they consider that the family is too poor, then the child is allowed to go on half-time, but if not, they are refused and no exemption is given.

13,221. Are there many exemptions?—No, there are very few considering the number of applications.

The school opens at nine o'clock a.m. and closes at four o'clock p.m., with an interval of one hour between twelve and one o'clock.

Time table

The subjects taught and the time allotted to each per week are—

Religious Instruction . .	2	hours
Reading and Intelligence .	5	"
Arithmetic	5½	"
Sewing, Knitting, Darning, and Patching . . .	4	"
Geography	2	"
History	2	"
English	2½	"
Composition or Dictation .	2½	"
Drawing	2	"
Singing	1	"
Drill	½	"

Being a half-time school, it must be borne in mind that only a half of this time goes to each division.

Comparison with Board School education.

13,222. Your time-table seems to be very much the same as that of the Board Schools?—Yes. We have not taken what is called hand and eye training, and we don't put cooking into the curriculum. We did have it, but we taught it after school hours. Then they have what is called nature knowledge as a subject in the Board Schools. We don't take that as a subject, but we bring it in in our reading elsewhere wherever possible. In fact, we give more time to reading and intelligence in proportion to our time than to any other subject. We are not so overcrowded with subjects as the Board Schools are, and if I had the opportunity I would never put in so many subjects as they put in. I think that reading and intelligence are suffering in schools because of the want of time spent on them.

13,223. Do you consider that the children in your school have obtained as good an education as those children who are attending every day?—The Inspectors seem to think so.

Time for physical drill.

13,224. Do you find time for physical training?—The time I give is too small compared with what I would like to give, and now that the subject has been brought up, I mean to give a little more. I give half an hour a week, and I would rather give one hour.

System: musical drill in central hall: beneficial effect.

13,225. What system of physical training is now in vogue?—Properly speaking there is no regular system. All we attempt is musical drill with dumb- and bar-bells.

13,226 How long has it been in existence? How taught, and by whom?—Six years. Taught in the central hall of the school by the various teachers.

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13,227. Have you found the children benefiting under it?—Yes, they like it very much and have benefited very much. It improves the discipline, and it also makes the girls walk with a better carriage and develops their muscles. Altogether it makes them smarter.

13,228. Besides this half hour a week, are the girls marched into their classrooms?—Yes, from the playground into the hall and then into the classrooms. I have made them march to music ever since the school opened.

13,229. You find that the central hall is good for physical training?—Yes, it is as good as we could have.

13,230. How many hours per week or *per diem*?—One half-hour per week.

13,231. Military drill, gymnastics, Swedish drill, games, etc. How much attempted? Success or failure?—Success in what attempted.

13,232. Are pupils interested?—Yes.

Central hall in school, a shed in playground

13,233. What accommodation for some kind of physical training, inside and out?—Large central hall of school and shed in playground.

13,234. Are any games played; are they organised?—Games are played, but these are not organised.

13,235. Are there continuation classes?—No continuation classes.

13,236. Generally what careers do pupils follow after school? *e.g.*, army, navy, merchants, farmers, fishermen, mill-hands, etc.?—They nearly all become mill-hands.

13,237. Is there much illness at school?—No.

Medical examination

13,238. Is there any medical examination of pupils?—Yes.

13,239. Is such desirable at certain periods?—Yes, that is my opinion.

Training should be compulsory all schools, and for the fourteen to eighteen.

13,240. Should physical training be compulsory in all schools?—Yes.

13,241. And also for those fourteen to eighteen?—It would be advisable.

Teachers: trained instructors preferred.

13,242. How could teachers learn it?—Teachers should not be asked to learn it. Properly trained instructors could be obtained.

Loafing.

13,243. Is there much loafing in those between fourteen and eighteen?—In all large towns there is a good deal of loafing among boys and girls of that age.

Continuation classes.

13,244. Would physical training as part of curriculum of continuation class be popular?—I think so.

Rifle clubs.

13,245. Rifle clubs: games?—Rifle clubs would be suitable for boys.

13,246. Any objections expressed by parents?—No.

13,247. What effects has the physical training?—Improves the carriage, exercises the various muscles, and helps discipline.

Physical education.

13,248. As well as physical training, are the ordinary rules of health taught, *e.g.*, about ventilation, air, sunshine, clothing, food, way to eat, etc.?—Yes, but not as fixed subjects, only as opportunities occur to speak of these things.

Public gymnasium suggested.

13,249. Suggest plan for attracting boys fourteen to eighteen?—I would suggest a public gymnasium conducted somewhat on the lines of an advanced Boys' Brigade.

13,250. Looking to the progress made by the children in your school attending half-time, do you think that would be a good argument for devoting more time in Board Schools to physical training? Do you think they would have the time to spare?—That would be a matter for each head teacher to think over. I would not like to give my opinion against his, but I think that he would require to take some time from something else.

Increase training: time table: difficulties and causes.

13,251. You have to give the teaching to your children in half the time that they have in the other schools. Do you not think that they should be able to give more time to physical training?—Any teacher that I have spoken to says that his time-table is so overcrowded; it seems that the School Board overcrowd the time-table because for one thing they give

3d. a head for each extra subject, and once begun it has to be kept up. They have to compete with other schools. We are isolated and don't have to compete. I think they could give more time to drill if they were really very anxious to do it. I think that if all the teachers in the land would impress the children with the fact that it is in their own hands to make their bodies strong and make themselves strong men and women, they are intelligent enough to understand that; and then they like the drill.

13,252. Do you approve of the alternate day system as compared with the half-day system?—I have had no experience of any except the whole-day system, but I think it works better than the half-day system. I would not like to offer an opinion against those who have tried the half-day system, however. The girls attending the whole-day system are quite free from the mill one day, thus resting their bodies, and from school the next, thus causing less of a strain on their minds.

13,253. *By Sir Henry Craik.*—You say you don't take up nature knowledge as a subject?—That is so.

13,254. You try to work it in with the other lessons?—Yes, the intelligence lesson.

13,255. Is not that what the Code asks?—Yes, but I thought they expected it to be taken as a separate subject.

13,256. By no means. What we try to urge in the Code is that it should be worked in with the other subjects. We don't want a long list of special subjects to be taken up in detailed course. We want nature knowledge to be precisely that which may be worked in with the other lessons to stimulate the intelligence. Did I understand you to say that the School Board pay their teachers 3d. for each subject?—Not the teachers; that is the grant to the school.

13,257. Under what clause of the Code is that? You know that the grant is now paid as a slump sum and not by subjects at all. When you gave your evidence I thought you meant that there was an arrangement between the teachers and the School Board?—Why should the teachers speak about the 3d.?

13,258. This is what I want to know?—It seems only lately that I have heard it talked about.

13,259. *By Mr M'Crae.*—In speaking of the time allotted to each subject per week, you qualify your time-table by saying that being a half-time school it must be borne in mind that only half of the time goes to each division?—Yes.

13,260. That means that they only get half of the number of hours that you have given?—Yes.

13,261. That is not the case with regard to drill, is it?—It would be the same as the rest, and it is too small.

13,262. It means that they only get a quarter of an hour?—We have managed to make it a little more, but the time-table only shows a quarter of an hour.

13,263. So far as the individual pupil is concerned, your time-table should be reduced by one-half?—Yes.

13,264. You have no continuation classes?—No.

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13,265. Do you approve of these?—Yes, but I would not approve of them in our school, as there are plenty under the School Board.

Compulsion in day schools: attraction for those fourteen to eighteen.

13,266. You think that physical training should be made compulsory in all schools and also for children between fourteen and eighteen years of age?—I could not say that it should be compulsory for those between fourteen and eighteen years of age; I don't think we could make it compulsory. You would require to bring in moral suasion.

13,267. How would you exercise that moral suasion?—I think if it was made attractive to them, and they liked it in the day school, then in the course of a few years we would have them educated up to that, and they would see the good and beauty of it.

13,268. *By Mr Fergusson.*—You say you are so much impressed with the good results of your physical training that you propose to increase the time?—Yes.

13,269. What subjects are you going to reduce?—I may take half an hour off the arithmetic.

Good health of pupils.

13,270. *By Sir Thomas Glen Coats.*—Are your pupils strong and healthy?—The attendance is really better with us than in the other schools, so that I would imagine that their health should be quite as good, if not better. Some of the girls develop greatly, but whether it is due to better food, and the classrooms being so particularly healthy and not overcrowded, I don't know.

Medical inspection advisable.

13,271. Is there any medical inspection?—No, except when they are admitted into the mill and passed by the doctors in the mill. I think, however, there should be medical inspection in all schools for defective eyesight, hearing, and skin troubles, which sometimes occur, and which are infectious. The doctor would notice what might escape attention otherwise.

13,272. *By the Chairman.*—You get your children from some other schools?—They come from all the other schools.

13,273. If physical drill is increased, and there is a common system laid down for it in every school, it would be necessary for you to fit yourselves to it?—Yes, I would be quite willing to do so.

If drill increased, trained instructors should teach it.

13,274. Your good class of teachers being superior to pupil teachers, would be all the more ready to follow it up and able to do so?—Yes, but if drill is to be a universal thing, there should be trained instructors for it.

13,275. You find no difficulty in giving your exercises to children coming from other schools who have been trained to a certain extent?—No.

13,276. Do they ever make any remark about having done that before?—Some girls who come from country schools, where drill has not been introduced, are a little stiff, but, as a rule, they all like it. No parents have ever asked me not to give their children drill. The children look forward to it.

13,277. Do you play the music yourself?—One teaches the exercises and another plays the accompaniment.

The witness withdrew.

Mr William Henderson, examined.

Mr W. Henderson.

13,278. *By the Chairman.*—Will you describe yourself, please, so that we may get it on the notes?—I am a jute spinner and manufacturer in Dundee, and I have taken a good deal of interest in connection with the continuation classes, particularly those conducted in connection with the Young Men's Christian Association in the city. I happen to be president of that association, and I am also chairman of the Technical Institute Committee in Dundee.

13,279. You have been kind enough to make a *précis* of your evidence, and you might read it.—

Physical training of boys and girls up to fourteen years.—I have no special knowledge of this as practised in schools, but observation during twenty years as an employer of labour in the jute manufacturing trade has impressed me of the need of a system of physical training for such young people, especially during their school hours. The relaxation of mental strain, combined with moderate systematised exercise, is, in my opinion, of great value. Gymnastic exercises, in the usual acceptance of the phrase, are not so valuable as extension exercises, and these latter suit both sexes.

Fourteen to eighteen: gymnasia in connection with continuation classes.

From fourteen to eighteen years of age.—Where children remain at school, the supervision of such drill is easy and ought to be continued; but where the child goes to work, it is not so easy to continue the training. Public gymnasia, in most large towns, offer facilities for those who wish to avail themselves of them, but the number who take advantage of these facilities is small. Besides, the fatigue of the day's work indisposes many to further exercise.

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The association of gymnasia with evening continuation classes would be of use in encouraging the continuance of physical exercise. In the Young Men's Christian Association rooms here, where continuation classes were conducted, a gymnasium was provided and was largely taken advantage of, till the erection of a public gymnasium in the vicinity proved a greater attraction.

Continuation classes: increase of numbers in attendance: educational subjects more necessary than physical drill.

With regard to many lads who are serving apprenticeship to trades, I am of opinion that continuation classes are more useful than physical drill, as they generally have plenty of exercise at their work, and given good classrooms and teachers in sympathy with the boys, there is little difficulty in getting the classrooms filled. The increasing numbers who come forward to continuation and technical classes proves that the value of them is more appreciated now than formerly. In 1886–87 the students attending classes at the Y.M.C.A. here numbered about 400; in 1900–01 they had increased to 590; and at the Technical Institute, which was opened in 1887, the number in 1900–01 was 693. Greater interest might be shown by employers of labour and managers of works in urging their apprentices to join evening classes.

For young boys who needed some inducement to attend evening classes, manual instruction classes were formed some years ago in carpentry and clay modelling, and the desire to join these led many who would not otherwise have done so to attend the educational classes, permission to attend the manual classes being conditional upon attendance at the other.

For older lads, say from eighteen years of age, I am in favour of military drill, and while not approving of conscription, would make service for a time in a Volunteer corps compulsory.

Loafers: 'statute-labour.'

'*Loafers.*'—I cannot think of any shape in which work can be made to appear attractive to this class. Effort in any form is repulsive to them, and as they constitute a standing menace to the welfare of society, I am inclined to treat them as criminals, and enforce a form of 'statute-labour' for their benefit.

Physical exercises necessary for school children.

13,280. You say that you have no special knowledge of physical training for boys and girls up to fourteen years of age?—Yes.

13,281. But you are quite agreed that it is very important that they should have a full course of physical training, then?—Certainly.

12,282. Because you can catch everybody then, and you cannot catch them afterwards?—That is so.

13,283. You are thoroughly in accordance with that view?—Yes, quite. I have tried to express that here, and the need for it particularly during school hours.

Continuation classes: interest of employees: increased attendances.

13,284. You say that greater interest might be shown by employers of labour and managers of works in urging their apprentices to join evening classes; what do you exactly mean by that?—We have offered to pay the fees of our apprentices who will attend these classes. We try to urge them to attend with the view of improving their position, particularly as mechanics, with whom we have most to do. We have no apprentices in the mills other than mechanics and those who are coming forward to mechanical work, and that is the particular inducement that we hold out.

13,285. What has been the result of that improvement, may I ask?—Very few of them have taken advantage of it. I believe that a number of them have attended the classes, because they have been urged to, but they have not taken advantage of the fees. They seem to think that that is an inducement which is not necessary, and they have taken advantage of the classes apart altogether from that. I mention the figures there of those who were attending the classes of the Y.M.C.A. and the Technical Institute, in order to show that these classes are very much more largely taken advantage of than formerly. In the first year, 1886–87, the classes at the Y.M.C.A. were practically the only classes of that kind in Dundee. Then in 1887 the Technical Institute was begun; that was a new building altogether, and many who were interested in the matter expressed a fear that there was no room in the city for two institutions conducting classes of that kind, but the experience of this year has proved that not only is the Technical Institute required, but the classes at the Y.M.C.A. have been crowded out, so that the members going there represent a very large increase indeed in the number of those who are taking advantage of the classes.

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Volunteer training compulsory for all lads.

13,286. Then you say that while you do not approve of conscription, you would make service for a time in a volunteer corps compulsory; is not that rather a contradiction?—Yes, it is, but it is an idea that I have had for quite a time. I was a volunteer myself for eleven years, and I think that the advantage of the drill and discipline is so great that every young fellow ought to be made to undergo it.

13,287. Do you think that the colonel of a volunteer regiment would like everybody to come in from the streets?—No, there are a good many who are not suited for it physically, but I think that they might be graded in some fashion. Some colonels might object to it.

13,288. You must be very careful what you say about that, as it is not quite practicable. Will you reconsider what you have said? You say that you would make service in a volunteer corps compulsory for a time for all lads, including loafers and everybody else?—Yes, unless the loafers could be dealt with in some other fashion.

13,289. But you cannot force a colonel of a volunteer regiment to take anybody he does not want to?—No, certainly not, but I think that the service in a volunteer regiment is so beneficial that that difficulty would have to be ignored, if it could not be overcome with regard to the feelings of the others in the corps.

Loafers: compulsory employment.

13,290. Supposing you had some form of compulsion for those loafers you speak about, what advice can you give the Commission as to how that could be brought about. Would you put the loafers under the School Board, or would you put them under any other authority or under the police, or what would you do?—I think that probably the police would be the body best able to cope with them. The habitual loafers are generally well known to the police, and if some form of employment could be provided by the State to which these men would be obliged to attend, I think it would be a good thing.

13,291. In that case do you go so far that you would take them up as having no particular means of livelihood, or something of that kind?—Yes.

13,292. Treat them like vagrants?—Yes.

13,293. Have you had a large knowledge of seeing loafers?—Yes.

13,294. Are there a great many in Dundee?—A good many.

13,295. More than there ought to be?—Yes. I think that is borne out by this fact, that Dundee is a very excellent recruiting ground for the army.

Continuation classes lately developed by Dundee School Board: influence of less fees.

13,296. *By Mr M'Crae.*—You have taken a great interest in these continuation classes in connection with the Y.M.C.A; how does the School Board deal with the question of continuation classes in Dundee?—During the last two years they have developed these very much. I may say that last session they improved the classes which they offered to young people and increased their number, opening additional classes, and that has acted adversely to the classes at the Y.M.C.A. It reduced our numbers from about 590 to considerably under 400—about 330, I think, because the School Board were able to provide these classes more cheaply than we were. We have to make ends meet, as we have no rates to fall back upon, and we could not give the classes as cheaply as the School Board was able to do, and they have taken away almost entirely those attending our commercial classes—English and geography, and these classes.

13,297. How do the fees of the Y.M.C.A. continuation classes compare with those exacted by the School Board?—I am not exactly sure what the fees are just now in the School Board, but our fees are 5s. for one class and 10s. for a course.

13,298. And the School Board did it much more cheaply?—Yes.

13,299. So that if the School Board was taking a very active interest in it there might be a little overlapping, or would you still have your work, supposing they were doing their utmost to make them popular?—We have given more attention to classes suitable for apprentices, such as machine drawing and construction, and engineering drawing and practical geometry, and these classes.

13,300. You say that public gymnasia in most large towns offer opportunites for those who wish to avail themselves of them, but the number who take advantage of these facilities is small. Is that not too much of a generalisation. Are there public gymnasia in all large towns?—I have not a very wide experience of them, but I know that the introduction of one in Dundee has given great facilities to our young fellows.

13,301. I think Dundee is rather in advance of other towns in that respect?—Well, in some respects I think we are exceedingly well off in educational establishments.

13,302. Have you considered the question of physical training apart from gymnastics in connection with your continuation classes?—Yes, I think that physical training is more useful than gymnastics. As I say here, 'gymnastic exercises in the usual acceptance of the 'phrase are not so valuable as extension exercises, and 'these latter suit both sexes.' In the first place, the physical training is suitable, I think, as far as I know, to both boys and girls, and it can be carried on with the minimum appliances. Then it can be given without great expense in the way of providing accommodation as well as appliances, and I think that, generally speaking, it is more healthful than some violent gymnastic exercises.

13,303. Then with regard to this paragraph about making service with a volunteer corps compulsory for all lads over eighteen, I suppose your point is that to avoid conscription you would have each lad capable of bearing arms undergo a certain amount of military training, but so as not to interfere with his daily avocation?—Yes.

13,304. Have you thought how it would work out?—Would you require a system of registration?—Yes.

13,305. Have you given any attention to the details of how it would work out?—No, I cannot say that I have, but I have thought of it principally in connection with the fact that you have mentioned that it does not interfere with a lad's daily employment. He can spend perhaps one evening a week quite easily in connection with his volunteer services, and that keeps him in touch with the corps, and to a very large extent make him efficient in the elementary branches of the work, but I think that the drill and discipline are of the greatest value to young fellows from eighteen to twenty-five.

13,306. You have taken a great interest in philanthropic work; what is your opinion of the moral tone of the youth of Dundee?—There is a low section in Dundee, the moral tone of which is very low indeed, I think, but speaking of the working classes generally, I think it is very good.

13,307. Is that your experience and opinion?—Yes.

13,308. *By Sir Henry Craik.*—Would you be in favour of making physical training a necessary part of all continuation classes?—I am not sure about making it compulsory. It migh deal hardly on some bodies who had not the same facilities that the School Board have, and it seems to me that, judging from what is being done in Dundee by the School Board, the continuation classes will be wrought in the near future almost entirely by the School Board, if they continue to develop as they are doing just now. It seems to me that there will be no room for other bodies, particularly on account of the cheapness with which the School Board can do it.

13,309. Do the School Board at the present spend much money from the rates upon these continuation classes?—I have not seen their accounts presented in such a form as to show what is spent upon the continuation classes.

13,310. I don t think you will find it very large; you get three-fourths of the expenses of these continuation classes from the Department?—Yes.

13,311. And do your fees not make up the other quarter?—Yes, I think they do.

13,312. Where do you find the difficulty of carrying them on?—Very largely in accommodation, the School Board having the schools at their disposal.

13,313. You are associated with the Technical Institute?—Yes, I am the chairman of the Institute Committee.

Continuation classes under Technical Institute and Y.M.C.A.

13,314. Is it the case that the Technical Institute and the Y.M.C.A. are joining together?—They have done so now. This is the first session, beginning in September—last month.

13,315. And they made an application to the Department to be recognised as a special institution under Article 87 of the continuation classes?—The Department intimated to us that they were in future to recognise it. We did not apply for the recognition, but they said that it was their intention to recognise it.

13,316. If you would organise yourselves in such a form?—It was simply an intimation as far as I recollect that the classes were to be recognised under paragraph 87 of the continuation schools.

13,317. And the competition would not arise, because you understand that we take power to refuse recognition of any competing classes?—Yes, there is no competition now between the Technical Institute and the directors of the Y.M.C.A., because in the spring of this year an understanding was arrived at whereby the classes in the Y.M.C.A. room have been surrendered to the Committee of the Technical Institute, and these classes are all being wrought now by the one authority—the Committee of the Technical Institute.

13,318. And that authority would be recognised even were the School Board to compete?—I am glad to hear that.

13,319. But you think that your premises were not sufficent?—They were found to be insufficient, and we had to turn away students. Three years ago we had to dismiss about seventy students from the classrooms of the Y.M.C.A. after they had paid their fees. Accommodation was found for about twenty of these in the classroom of the Technical Institute, but about fifty had to be turned out on the streets.

13,320. And you have not provision for the physical training?—No, we have no provision for physical training.

Little employment for young men: loafers.

13,321. *By Sir Thomas Glen Coats.*—Do you find a difficulty in getting employment for lads over seventeen or eighteen?—In the industry in which I am engaged it is difficult. We in the textile business employ a large number of girls and women, and we employ a large number of boys, but when they get to the age of seventeen or eighteen, the wages are not sufficient to induce them to remain. We have very little employment for young men.

13,322. And are these the lads who become loafers on the street?—Yes.

13,323. And you have difficulty in dealing with them?—Yes.

After fourteen, combination of physical and mental instruction.

13,324. *By Mr Fergusson.*—I gather that your view is that for lads after the age of fourteen or apprentices, physical training and other instructions should go together, but that the one should not be insisted on to the exclusion of the other?—At that age I think not.

Loafers: approval of Sir Robert Anderson's scheme.

13,325. As to that last paragraph about loafers, I want to ask you this. It has been suggested that in dealing with loafers, any able-bodied youths found without any visible means of subsistence, and making the streets their home, should be sent, not to prison, but to a training ship or other institution, or in other ways made into useful citizens?—Yes, that satisfies me.

13,326. That meets with your approval?—Yes.

13,327. With reference to Dundee, have you read the evidence that has been given before this Commission?—Most of it. I don't think I have read every word.

Supervision of young factory girls.

13,328. Have you read the evidence given by the Rev. Mr Williamson?—Only part of it.

13,329. There was one matter he spoke of, and I

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shall read you his evidence. 'Q.—Is there anything 'you would suggest dealing with the very special 'young population of Dundee, that the Commission 'could recommend? A.—Yes, I have long thought 'that the manufacturers are responsible. I hold the 'manufacturers have no right to take possession of 'these young people and place them in conditions of 'employment where their morality is injured. Q.—In 'fact they place obstacles in the way of the School 'Board carrying out all that it might carry out in 'reference to these young people? A.—I think so; it 'is hardly fair to say that they place the obstacle, but 'they know, or they ought to know, that they treat 'these young people as if they were machines, without 'moral responsibility. Q.—You would like some 'method by which that could be put a stop to, then? 'A.—Well, I think that if a properly qualified matron 'were appointed to each mill, she would see that there 'was nothing done that would in any way injure the 'proper conduct of young girls especially. The girls 'suffer more than the boys, I think.' Was your attention directed to that?—Yes.

13,330. I should like to ask you, as a manufacturer, what is your view on that subject. Is there any weakness there?—I am afraid that the suggestion which struck me most there was the proposed appointment of a matron. I am afraid that is impracticable. Our control of the workers is, of course, only during working hours. Generally they are pretty busy during those hours, and they are all supervised. With regard to the youngest girls whom we employ, and who are known as shifters in connection with spinning frames—that is, replacing the full bobbins with empty ones—these squads of shifters are all overlooked by an older woman, who is called the shifting mistress, and I think that most employers and managers and foremen are careful to see that these women are women of respectable character. I quite understand that where women in that position were disreputable, they might exert a very bad influence over these young girls, but I think, from my knowledge of the manufacturers in Dundee, they do exercise a considerable amount of care in these directions.

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13,331. You don't think that there is any practical suggestion on these lines?—No, I don't think there is any practical solution of that.

The witness withdrew.

Mr J. Lyons.

Mr John Lyons, examined.

Mr J. Lyons.

13,332. *By Mr Ferguson.*—You are the headmaster of St Margaret's Roman Catholic School, Glasgow?—Yes. Trained Certificated Teacher of the First Class. First Class (Advanced) Certificates for Physiology, Magnetism and Electricity, Acoustics, Light and Heat, and Mathematics from Science Department, S. Kensington; Full Drawing Certificate (D), and Intermediate Certificate in Music (Old Notation and Tonic Sol-fa, Vocal and Instrumental), Pupil Teacher in London for five years '67–'71. Trained in Hammersmith Training College two years, '72–'73. Headmaster for twenty-nine years; opened and organised two new schools. Twenty-seven years Headmaster in present school, which has 1200 scholars on the rolls, with an average attendance of 960. The school is divided into three departments — boys, girls and infants.

The ages of the children range from three to fourteen years. The parents are mostly of the labouring class, with a fair sprinkling of the better class of artisans. The children are, on the whole, fairly well fed and decently clad.

Food and clothing supplied.

A sewing guild composed of voluntary lady workers supplies necessitous cases with boots and clothing in winter, while a branch of St Vincent de Paul Society furnishes meals to the poor children during spells of dull trade or inclement weather. An area of half a mile radius would include the whole of the district from which our children are drawn.

Chesterton's system.

A carefully-selected course of physical exercises, compiled and arranged from the best authorities by Thomas Chesterton, Instructor of Physical Education to the London School Board, and late chief Instructor at the Aldershot Gymnasium, is in vogue.

This course has the sanction and approval of H.R.H. the Duke of Cambridge, and is carefully graded to suit the capacity of each class of children from the lowest to the highest. This scheme is carried out in the school by two trained certificated teachers on the staff, who hold certificates of proficiency in drill from Colonel Onslow.

Exercises in open air.

In the senior division, dumb-bells and clubs were used, but to save time these are now discarded, as they are not essential to the efficacy of the drill. The exercises are invariably given in the open air, because, if performed in school, where the air is more or less vitiated, they cannot possibly be so beneficial to the scholars.

Drill: children interested.

The children themselves are much interested in the drill, and only those physically unfit are exempt from taking part in it. The parents also show by their attendance at school displays, where musical drill is a chief feature, that they appreciate the system, and often, at considerable sacrifice to themselves, provide their children with suitable costumes and apparatus.

For drill purposes the school is divided into five sections, and each section exercises for half an hour, the highest on Monday, and descending to the lowest on Friday.

Time: difficulty.

The requirements of the Code at present do not, I consider, admit of more time being devoted to this subject. If, however, less time were required to be given to, say drawing, another half hour could with advantage be given to drill; and I would prefer to give two separate half hours rather than one hour at a stretch.

Playgrounds unsuitable for games.

The ten minutes' intervals allowed forenoon and afternoon for recreation are taken full advantage of by the children, and all kinds of games are indulged in; but games such as cricket, football, etc., cannot be systematically played on account of the limited playgrounds and the necessity there is of asphalting these—a fall on a concrete floor being dangerous to life and limb.

Medical examination advisable.

There is comparatively little illness among our children, excepting an occasional outbreak of measles or scarlet fever, which, however, very seldom assume alarming proportions. We have no medical examination of the scholars in the school, but each teacher reports suspected cases of sickness to the headmaster, who sends for the parents and advises medical examination when necessary. In infectious cases, of course, all children coming from the infected premises are refused admittance to school until notice of the removal of infection has been received from the sanitary inspector. An ambulance class has recently been formed for Catholic teachers, and all are encouraged to attend. I think there could be no objection to a medical examination periodically, particularly in the case of the eyes, as myopia seems to be on the increase, and bad reading and writing are frequently attributable to this cause without the teacher suspecting it. As attendance at school is compulsory, School Boards should be empowered to grant spectacles to poor children whose eyesight is defective. I would also suggest that the efforts of the teachers to put down the growing evil of smoking among children should be supported by the local authorities, or even by legislation. There is no doubt that smoking is injurious to school children, both physically and morally, and strenuous efforts should be made to suppress it.

Smoking.

Compulsory training in day schools.

I hold that physical training in one form or another should be compulsory in day schools. I think, however, the system should be an elastic one, and allowances should be made for environment, pre-

dilections of the teachers, prejudices of the parents, or any special circumstances connected with the school. Moreover, I maintain that baths should be attached to, or be within a convenient distance of, every school, and that attendance at the baths be recognised in lieu of physical drill. Swimming and bathing I consider to be the best of all physical exercises, and being conducive to cleanliness, health-giving in the extreme.

Related to this also is the kindred subject of the housing accommodation of the working classes, for a child reared in an insanitary dwelling or district cannot be expected to be a sound physical subject. In the meantime, and until the housing problem is nearer solution, I think it would be advisible to adopt means to secure the attendance of poor children at school at as early an age as possible. The purer atmosphere of the school and its superior surroundings, not to mention the training received there, are calculated to have not only a refining and elevating influence, but to produce beneficial physical effects not to be expected in many homes. Where the children have good homes I think they should not be compelled to attend school before at least six years of age, more particularly as the age limit for leaving school has been raised to fourteen years.

Poor parents should be encouraged to send their children even as early as three years, and a room in every school should be fitted up with a miniature gymnasium, consisting of rocking horses, swings, maypoles, etc., where the little ones could get physical exercises, health and enjoyment not to be got elsewhere. This idea is already being carried out in some schools with much success, but more could be done in this direction by grants of apparatus from Government or from local authorities.

I must say that the raising of the school age limit to fourteen years bears rather heavily on many poor parents, and reacts injuriously on the children themselves. In order to get some financial assistance from their children, parents now send them out as early as 6 o'clock a.m. to go with milk carts, papers, etc., and they are again engaged at various jobs after school hours, as grocers, butchers, etc., cannot now get boys as readily as formerly. The physical exercise is often overdone in these cases, and the physique of the children suffers in consequence. School Boards could, I think, with advantage, exercise greater leniency in exempting the children of poor and deserving parents at a less age than fourteen, on condition, of course, that they attend the evening classes.

With regard to the teaching of physical culture in our schools, I have to state that all our trained teachers, during their two years' residence in the Training College, undergo a thorough course of training in physical exercises and military drill under a regular Army Drill Instructor. On the completion of their course, they are examined by a military officer of rank, who grants certificates of efficiency. This examination is both practical and theoretical. The practical consists in the one student putting the remainder through their exercises to the satisfaction of the examiner. The theoretical examination consists in answering physiological questions on the anatomy of the human frame, and on the different muscles brought into play by the various exercises performed. Our trained teachers may, therefore, on leaving the Training College, be considered as fully equipped for the teaching of drill.

The advantages of physical training in the hands of a good teacher, who has regard for age, capacity, and general health of the pupils, are undoubted. It teaches order, discipline, and obedience; relieves mental strain, promotes bodily development, and affects beneficially even the deportment of the children.

When our children leave school, they betake themselves to one or other of the many occupations common to the neighbourhood. They enter the factory, the foundry, the engineering shop, the ship-yard, etc. Many boys, however, at the age of fourteen years go as message boys till they reach sixteen years, when they are apprenticed to trades. Some later on find their way into the Army, and a few into the Navy. The want of Catholic chaplains on board our men-of-war vessels, I consider, has some influence in deterring our young men from joining the navy.

Continuation classes: no physical exercises given.

Continuation classes are held during the winter months on Monday, Tuesday, and Wednesday evenings, from 7.30 to 9.30. They are not taken advantage of to the extent we could wish, but in many cases there are good reasons for this, such as late employment.

Nevertheless, it must be admitted, that many who could do not take advantage of these classes, notwithstanding that they are free to all, no fees being required.

No physical exercises or drill of any kind are taught in connection with these classes. The majority of the boys get plenty of physical exercise at their work during the day, and it would require to be a very attractive scheme indeed that would be popular among them in the evening. For the same reason there is comparatively little loafing, as boys find no difficulty in getting employment.

Related to continuation classes, somewhat, we have a guild for boys between fourteen and sixteen, and a branch of the Young Men's Society for youths over that age.

Boys' Guild.

Boys' Guild.—We consider the time when boys at fourteen years are free from the restraints of school life and begin to mix among men in public works to be the most dangerous period of life morally. And I maintain that morality and physique are closely allied, the latter depending greatly on the former. The Boys' Guild is, therefore, more in the nature of a religious society. However, the guild generally possesses a football, wickets, etc., which are used in the public parks and vacant spaces, and cricket and football bulk largely in the amusements on excursion days to the country or seaside.

Young Men's Society.

Young Men's Society.—This society possesses a suite of rooms for their own use, consisting of billiard room, library, and hall for lectures, concerts, etc. And here, I think, there exists the nucleus of any popular scheme that may be devised for the physical training of our youths of fourteen to eighteen.

To be popular, however, with our people, three important points should be observed, viz.:—

Training of those fourteen to eighteen: suggestions.

(*a*) The scheme should not insist on military drill, as the parents are opposed to anything which savours strongly of militarism. They want to keep their sons at home.

(*b*) Any system that does not recognise the religious convictions of the parents would not secure their hearty support. They like, and insist as far as possible on it, to see their sons take their recreation as well as their education among their co-religionists, and under supervision of which they approve. Hence our denominational schools, halls, etc.

(*c*) No scheme would be popular which would in any way increase the financial burden which they already have to bear in connection with their schools.

I fully believe that any system devised to improve the physical development and well-being of the people, and recognising the principles I have laid down, would receive hearty co-operation from our people.

For instance, in connection with these halls which already exist, gymnasia could be established under a proper drill instructor; and attendance at a gymnasium could be reckoned as an attendance at a continuation class. Or a certain number of hours' attendance at a gymnasium could be considered as qualifying for a certificate of efficiency, and a grant allowed for each efficient. Rifle clubs in connection with the Young Men's Society might become popular.

In conclusion, I would suggest that the present regulation existing in some public parks, prohibiting boys over fourteen from using the gymnasia, should be abolished, or, alternatively, that separate gymnasia, be erected for their special benefit.

Feeding.

13,333. Do you take any steps to deal with those who don't seem to be properly fed?—Yes.

13,334. What do you do?—The teachers generally make inquiries when times are bad.

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13,335. If there is a child who is not well fed, you find out why not?—Yes, and we encourage the children to tell us.

13,336. You consider that part of your duty?—Yes.

Chesterton's system.

13,337. Is Chesterton's system the only system you are acquainted with?—No, I had a course of military drill myself in the Training College in 1872 and 1873.

13,338. But things have changed a bit since then?—Yes.

13,339. Do you know Cruden's?—No. I think Chesterton's is a very good system, and it answers the purpose very well.

13,340. Who is Colonel Onslow?—He is a military officer in London, and he goes round to inspect the training colleges, and grants certificates.

Outdoor exercises intermittent: covered playground.

13,341. With regard to the exercises in the open air, what do you do on a wet day?—They are generally postponed.

13,342. Then you have them at very irregular intervals and miss a day?—Yes, and take two classes out at once on the favourable days.

13,343. Does not Chesterton have daily exercises?—Yes, he has exercises in the classroom.

13,344. If you had accommodation, would you like to give daily instruction instead of intermittently?—Yes. Our playground is covered, and even on a wet day it does not interfere much with us.

Medical inspection desirable.

13,345 At the beginning of every term, or every six months, would you say that the children should be all inspected by an appointed medical officer attached to the school?—Well, I believe it would be a very good thing.

13,346. At any rate you see no harm?—No, on the contrary.

13,347. Are you troubled with cases of defective eyesight?—Yes, we have a few cases.

13,348. And that is rather a special thing that a doctor might be able to deal with if you did not notice it yourself?—Yes, I think a doctor might do us a great amount of good by coming periodically.

13,349. You afterwards say that there is no objection to physical training, but that means to say that you would not have a hard and fast rigid system, and that so long as the teaching conforms to general principles you would give the teachers a free hand?—Yes.

13,350. Have you any baths?—The baths are very convenient to us, and a few of them attend in the evening, but there are new baths opening beside us. I find that they are very popular, and I think they are very good indeed.

Ages of children attending school.

13,351. Do the children attend at the age of three now?—A few do.

13,352. They cannot attend much earlier than that?—No, but the tendency is not to send them so young now.

13,353. Do you think the children under six cannot be made useful?—I am speaking of good homes, and the fact of the children playing about the streets tends to give them plenty of physical exercise.

13,354. Do you call playing about the street physical exercise?—Yes, I think all the time the child is gaining strength for future mental effort.

13,355. Don't you think you could deal with a child a little better in organising him at school and starting him off at games?—I believe in going to the school very young.

13,356. You don't have any outside experts?—No.

13,357. Do you think that is the best way?—If the teachers are properly trained.

Continuation classes: compulsion undesirable.

13,358. What keeps the children back from attending the continuation classes?—Are the classes not sufficiently attractive, or what is the matter?—I say that many of them are working late and they don't get home till six or seven o'clock.

13,359. But apart from that, it must be admitted that many who could do not take advantage of them?—I suppose it is the want of parental control and not looking after the children.

13,360. Do you think that there is anything to make them more attractive—if you had a gymnasium and physical training might the continuation classes be made more useful?—I believe they would so long as attendance was not made compulsory.

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13,361. You would not like to see physical training after school age made compulsory?—No, I would not.

13,362. But something might be done?—Many of our lads are working hard all day, and if anything were made compulsory, they would not take to it at all.

13,363. Would you have a compulsory system with exemptions for those who are working hard all day?—Most of ours work hard all day. They are mostly working lads.

13,364. With regard to the Boys' Brigade, is there anything else that you would suggest that would be useful on the same lines as the Boys' Brigade, something to keep the boys together after school age, and help them to spend their time better and teach them useful things—for instance, a cadet corps attached to the school; have you any ideas on that subject?—I don't know that it would be popular with our class of boys, but if something were done to attract them, it might.

13,365. You find this useful—something to keep them together after school age?—Yes, that is necessary, and would be doing a great amount of good. Of course something might be done.

Military training.

13,366. With regard to your statement that the parents want to keep their sons at home, is that a strong feeling in your district?—Yes, I think it expresses the feelings of the parents.

13,367. Do they not like volunteering or soldiering in any form?—I don't think they object so much to volunteering as to soldiering.

13,368. When you speak about military drill, you don't mean the elements of drill?—No.

13,369. But something that would make soldiers of them—is that what is in your mind?—Yes.

13,370. Then you say that no scheme would be popular which would in any way increase the financial burden which they already have to bear in connection with their schools. It has been explained to us that you have heavy burdens and have to pay school rates, and still support your own schools?—Yes.

13,371. Do you think any increase on that would militate against any system?—Yes.

13,372. Have you any experience of rifle clubs, or have you tried them?—No.

Public parks: gymnasia should be open to boys over fourteen.

13,373. Then in conclusion you suggest that the present regulation existing in some public parks prohibiting boys over fourteen from using the gymnasia should be abolished. What is that rule?—That no one over fourteen is allowed to use them in the park beside us.

13,374. Which park is that?—Plantation Park.

13,375. Then children under fourteen are allowed to use the gymnasium?—Yes, but not over that. It is meant for school children.

13,376. And you think that it would be taken advantage of?—Yes, I believe it would, because many boys do go there and they have to be driven away.

13,377. *By Mr Alston.*—Where is this school of yours situated in Glasgow?—In Kinning Park.

13,378. Is the population principally Irish there?—No, they are in the minority.

13,379. I mean imported Irishmen or Roman Catholic Irishmen?—They are mostly Irish.

13,380. You have 1200 scholars, with an average attendance of 960; is that rather under the School Board average?—A little under some of them and a little over others.

13,381. Is there any particular reason for that?—There may be a little laxity on the part of the School Board officers. We are on the boundary of two School Board areas; part is under the Govan Board and the other part is under the Glasgow Board.

13,382. Any laxity on the part of the parents?—There may be that also: you will get that everywhere.

13,383. A few paragraphs further down you say, 'The parents also show by their attendance at school 'displays, where musical drill is a chief feature, that 'they appreciate the system, and often at considerable

'sacrifice to themselves provide their children with 'suitable costumes and apparatus'; do you find the parents of that particular class always able to pay out money for things of that kind and not for others?—I don't know that they are able to do it, but they find the means to do it.

13,384. And are the children dressed up for these occasions?—Yes.

13,385. Do you find musical drill attractive?—Yes, very attractive.

13,386. Have you considered the question of it being a hindrance to perfection of instruction in physical training, because many witnesses have pointed out that unless the physical instruction is perfectly given, the carrying out of musical drill without care in the grounding work tends to formality in the drill and detriment to the children?—I think that depends more on the drill instructor and his method of carrying it out.

13,387. That is the meaning of the evidence that physical instruction with musical accompaniment tended to inefficient training, but you say that there is always a very gratifying display?—Yes. Sometimes we have a class that is taught physical training by a lady teacher, and the same exertion is not put into it as if it were given by a male drill instructor; but if given with music it is good for the children in other ways, and if proper attention is given to the details by a good instructor, then it is useful as physical training.

13,388. Further down you say, 'I think either the 'system should be an elastic one, and allowances should 'be made for environments, predilections of the teachers, 'prejudices of the parents, or any special circumstances 'connected with the school.' Do you think it is a wise thing to give way on these points?—I have never experienced that myself, but I have heard of cases where parents have objected to their children getting military drill.

13,389. But this is physical training?—Well, drill is a kind of physical training.

13,390. But it is not military drill?—I think the objection is chiefly to military drill.

13,391. In adopting a system of physical training, it would not be wise to give way to the predilections of the teachers and the prejudices of the parents?—I mean as far as teachers are concerned, they may have a preference for one system over another.

13,392. Would you allow several systems?—No, but I mean other systems in other schools.

13,393. Then in the case of a pupil going to another school, a different system would be used in the school that he has left from the system in the school to which he goes?—I don't see any strong objection to that so long as it is physical training.

13,394. Under the heading of 'Young Men's 'Society,' we have evidence from a witness, a co-religionist of your own, as to it being desired in the Roman Catholic body that the hall used for physical exercises, or amusements, should be under the control of your own Church people; do you find that that is a necessity?—I don't know that there is any special arrangement or agreement come to. I consulted no one in writing this, and I am simply expressing my own convictions.

13,395. I want to know whether it is a well-grounded opinion among all Roman Catholics that a hall used for such recreation should be under the control of your own body, either partially or wholly?—Yes, I think it should be wholly under our own control. If a popular scheme were devised, then there could be a regular examination by the proper authorities and an instructor appointed to go in and examine everything.

13,396. The point is that we were struck by the fact that the position taken up by the Roman Catholic population in the district in reference to such a hall for public recreation in which their young men might take part, is that they should have control of the hall or be well represented on the body of management?—In point of fact it is their own hall.

13,397. Not if it was a public hall?—Then we could not expect to have the entire control of it.

13,398. Not the entire control, but say a whole night a week; do you say that you would desire that?—I think we should have it whenever we wished. We want a hall of our own. We have that in every mission already.

13,399. You don't want to be mixed up with the others in education or amusement?—As far as possible, no.

Militarism.

13,400. Then you say, 'The scheme should not in- 'sist on military drill, as the parents are opposed to any- 'thing which savours strongly of militarism,' but militarism is not involved in military drill?—If you gave it to the oldest boys the parents might look upon it in that light, but children would not take that out of it.

13,401. And if there was a cadet corps, some parents would object on that ground?—Possibly.

School age limit: should be more exemptions: occupations.

13,402. *By Mr M'Crae.*—You say that the raising of the school age limit to fourteen years bears rather heavily on poor parents?—Yes, I have found that.

13,403. Is that particularly a working-class district?—Yes, a great many are of the working class.

13,404. Do you think that the sending out of children at six o'clock in the morning to go with milk carts and papers is very general in your district?—I would not say that it is very general, but there is a good proportion of the children in the upper classes of the school who are engaged in work.

13,405. Then it appertains to a fairly large class?—Yes.

13,406. But can the children of poor parents not get exemption after attaining the age of twelve years?—Yes, but the School Boards might be more lenient.

13,407. You think that there should be a more generous interpretation of that permissive class?—Yes, in some cases.

13,408. You say that when they leave school they go to many occupations; is there any interval between leaving school and obtaining work during which the children run about wild?—Not now, not since the age has been raised to fourteen.

13,409. You say further on that the boys have no difficulty in getting employment?—Not the least.

13,410. We had evidence from one witness, who said that a good many boys after leaving school roved about and did not follow any occupation, but you have not found it so?—Not since they were compelled to attend school till fourteen.

13,411. Did they obtain exemption between twelve and fourteen?—Yes, in former times they did.

Continuation classes.

13,412. You say that no physical exercises are given in the continuation classes?—None.

13,413. But have you ever tried to establish such?—No.

13,414. Don't you think that it would be rather a good thing?—Many of our boys, in fact the whole of them, are working hard the whole day, and I don't think it would be a popular move to have physical training after working hours, but something might be suggested to make it attractive.

13,415. You know the difference between gymnastic and physical exercises apart from gymnasia?—Yes.

13,416. Extension motions and that sort of thing?—Yes.

13,417. They might get physical training although not of a very violent nature?—I have not given consideration to that in the evening classes.

Cigarette smoking.

13,418. You make a complaint about cigarette smoking among children, and you think that this should be put a stop to by legislation?—I do.

13,419. What lines would you suggest on which legislation should proceed?—I can scarcely suggest that, but I see the evil, and it seems to be growing.

13,420. Do you mean that a boy should be liable to be arrested if found smoking cigarettes under a certain age?—I would not go so far as that.

13,421. Is it very prevalent?—Yes, very, and no doubt it is injurious to the children themselves, and if some way could be thought of, it might be checked, but I have not formulated any scheme by which it may be checked. The teachers do all they possibly can to put it down, but it is not effective.

13,422. *By Mr Shaw Stewart.*—On the same point, do you think that if cigarettes were not allowed to be sold in packets beyond a certain minimum—say a dozen cigarettes—that would have some effect on children buying them?—Possibly it would, or if the sale of cigarettes were forbidden to all children below fourteen.

13,423. And no child allowed to enter a tobacconist's shop?—That might have some effect, but I don't think it would kill the evil, because they get them from older boys.

13,424. You have not thought of any legislative scheme?—No.

Public parks.

13,425. You say that the Boys' Guild generally possesses wickets which are used in the public parks; I am afraid there are not many open spaces about Kinning Park?—There are not so many as there used to be.

13,426. And there is not a public park within a mile?—Yes, there is Plantation Park, at the end of Scotland Street, and they can play there. Then there is a large vacant space not far down the Govan Road in the Plantation district where they can play.

Public gymnasium: some supervision or control by Roman Catholics.

13,427. With regard to that point of a public gymnasium, supposing there was a public gymnasium erected, I want to know from you how Roman Catholic youths could make use of it, because I think you would be against their going in with other boys on any night, even as part of the continuation school; you would like to have the sole control of the boys during the time that they were exercising in the gymnasium?—We should like some sort of supervision that we could approve of.

13,428. It has been suggested that if there was a public gymnasium in a district, the Roman Catholic youths might make use of it during one night in the week under Roman Catholic supervision; that would meet your approval?—I think so.

13,429. But you would not like them otherwise to take part?—If there was a public gymnasium such as you speak of under the management of people that we had confidence in, I don't think that would be any bar to our children going there.

13,430. Or if Roman Catholics were represented on the board of management?—Yes.

R.C. Boys' Brigade: objection to military training.

13,431. *By Sir Thomas Glen Coats.*—We have had some evidence that the Roman Catholic Boys' Brigade has not been very successful; how do you account for that? We are told that other Boys' Brigades have been more successful in taking the boys off the street and bringing them under control and doing them good generally. Wouldn't that also apply to your Boys' Brigade?—I don't know that we have ever attempted very much in that direction.

13,432. Would you approve of that?—It would depend upon what lines it was run upon.

13,433. *By Mr Alston.*—It is in England and Ireland where your Church has taken part in that movement and not in Scotland; is not that so?—It is not tried much about here.

13,434. *By Sir Thomas Glen Coats.*—Would you consider that military training would make it unpopular?—I think that would be a great objection to it if the people thought that it was only a stepping-stone to the army.

13,435. But it does not seem to have that objection in England and Ireland?—It may not have that effect at all, but if people think it has, I think it would militate against the success of it.

13,436. You think that the feeling would prevail more in Glasgow?—I cannot speak about the feeling in other places, but I think that is the feeling about here.

13,437. Some people think that it would smarten them up and give them an inducement to join the brigade?—Yes.

13,438. *By the Chairman.*—Do you share in this dislike of the army that you say is so permanent about you?—I don't dislike the army. You mistake me if you think I said that I disliked the army.

13,439. But you said that a great many people did not like it?—I don't think they would like their sons to join the army.

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13,440. Why not?—They require them at home; they would rather keep them at home. They don't like the idea of them going away.

13,441. They would sooner have conscription, would they?—No, I don't believe they would like that.

Physical drill: increase advantageous.

13,442. You have had a large experience of twenty-seven years in your present position; what do you think about the effect that physical drill has had just now? Do you see any difference since it has been brought forward, or do you think that this is rather a useless inquiry?—No, I don't think it is a useless inquiry at all. I think it is a very useful inquiry.

13,443. You are not satisfied that there has been sufficient of it up to the present time?—I think more of it could be given with advantage to the children.

13,444. And with no detriment to their mental acquirements?—No, it would rather help them, so long as the time-table of the school would give them the time, but we have so many things to do, we cannot devote as much time as we would like.

Saturdays: physical exercises for school children might be tried: compulsion inadvisable.

13,445. But you don't advise or recommend in any way tampering with the Saturdays, do you?—For the children or the teachers?

13,446. For the children?—Many of them are employed on Saturdays. You refer to those up to fourteen.

13,447. Those who are up to fourteen?—Many of them are engaged on Saturdays working. In shops nowadays they cannot get boys on account of the raising of the age to fourteen. They are working all day on Saturday. Saturday being a very busy day, butchers and grocers cannot get a sufficient number of boys.

13,448. And they find the Saturday holiday a very useful day to get hold of the children?—Yes.

13,449. And teachers naturally would hardly do anything on the Saturday; it is a great boon to them to have Saturday free?—Yes.

13,450. But at the same time it has been mooted, and I thought it right to ask you whether physical training of some kind or other could not be done on Saturday; it might take the form of digging in a garden?—It would be a good thing for the children, I believe.

13,451. Some people think it is a pity that when they are employed for five days in the week they should go and sit in the gutter and make mud pies and do no good for themselves or anybody else, whereas by helping their parents in the shops it is a good thing?—I think a great deal could be done on the Saturdays with those not usefully employed, but I think anything compulsory would not act.

Time: drawing.

13,452. *By Sir Henry Craik.*—You say that the requirements of the Code at present do not admit of more time being devoted to the subject, and you suggest that room should be made for it by dropping the subject of drawing?—Not by dropping it.

13,453. You say that less time would require to be given to it?—Yes, less time could be devoted to it.

13,454. But the only time is as much as to make it efficient?—Is it not compulsory to give one and a half hours to it?

13,455. No. Would you sacrifice the drawing, which is itself more or less a training of the bodily as well as the mental capacities to this?—I would not sacrifice it, but I think they are expecting too much from the elementary children.

13,456. We have been told that very often, but the part that you want sacrificed is part of that instruction which comes closest to the physical training?—I don't see that.

13,457. Surely drawing is part of the education which comes very closely to the training of the body as distinguished from the mental?—I don't think there is much physical training in that; there is more training of the hand and eye.

13,458. Is the object of the training not to give a certain physical training as distinguished from mere brain work?—I cannot see it in that light.

13,459. Would you entirely prevent the employ-

Mr J. Lyons. ment of school children out of school hours?—No, I would not. I think it is absolutely necessary and useful. The parents require the children.

13,460. How do you define physical exercise as a part of education? Do you mean that it brings bodily fatigue, or do you intend by it what properly and healthfully trains the muscles and the bodily faculties?—The one which trains the bodily faculties.

13,461. But you don't use it quite in that sense. You say that the physical training is overdone; that is mere fatigue—the fact that they undergo fatigue without supervision and without any relation to their strength and health—that is surely not physical exercise?—When physical exercise is overdone it leads to fatigue.

13,462. But going messages and being employed at early hours means fatigue, and, in fact, it is the want of system and of supervision in the training of their bodies that is the error, and instead of being overdone it is not sufficient?—I would say that it is physical exercise, but not systematised.

13,463. Surely in the case of those boys who are over-fatigued by cruel and disproportionate labour, physical exercise in the sense of supervised exercise is more required than any other; it cannot be overdone?—Do you mean that after boys are running messages you should start and give them systematised training?

13,464. You mean bodily exercise?—I would not agree to that.

13,465. You say that the School Boards should exercise greater leniency in exempting the children of poor and deserving parents; have you had a long experience of the leniency that they have shown?—Yes. Exemptions: School Boards should be more lenient in cases of poor parents, etc.

13,466. And do you think that they have been over severe?—Yes, I think they might exempt more than they do for poor parents, such as widows, and in cases where the father is incapacitated through illness, etc.

13,467. And instead of thinking with some of the witnesses that they have been rather lax, you think that they have been too stringent?—No, not in all cases. I say that they could exercise greater leniency with poor and deserving parents. Perhaps the parents themselves do not take the full advantage of this that they might do.

13,468. But if parents do not take the advantage of having them exempted, still you think that, even if the parents wished them not to be exempted, they should be exempted?—They may not know how to go properly about it. It is not that they do not wish them to be exempted.

The witness withdrew.

Mr H. Muir.

Mr Hugh Muir, examined.

13,469. *By the Chairman.*—You are headmaster of Dobbie's Loan School, Glasgow?—I am.

13,470. State qualifications, degrees, experience, number of years in present position, position of school, number of scholars, average attendance.—I have first-class certificate from Education Department. I took the following classes in the University of Glasgow, viz.:—Geology, astronomy, humanity, and moral philosophy. I have advanced certificates from the Science and Art Department for geology, physiology, agriculture, magnetism, and electricity. I have also a full 'D' art certificate. I have been about twenty-five years in schools of this class under the Glasgow School Board, viz.:—Bishop Street, Campbellfield Half-time, Dovehill, Rosemount, and Dobbie's Loan. I also taught for several years at the central classes for pupil teachers. I have been six years in present position. One of the lowest grade, 1100 scholars on roll, and 900 in average attendance.

13,471. Ages of pupils, youngest and oldest?—The ages range from three and a half to fourteen years.

13,472. Position and vocations of parents?—Most of the parents are very poor and belong principally to the labouring classes, *e.g.*, iron foundry, chemical work, and dock labourers, etc., whilst there are also a few tradesmen amongst them, such as joiners, engineers, ironmoulders, etc.

13,473. Children well-fed or the reverse at home?—Most of them get plenty food of a kind, but not such as will maintain the body in a proper, healthy and vigorous condition.

13,474. Any meals supplied by school or other authorities?—No meals supplied by school. A very liberal supply given by the Charity Organisation Society and church missions.

13,475. Clothing of children.—Most of them are fairly well-clad, and the others, with but few exceptions, are generally supplied by the Charity Organisation Society.

13,476. Distances most of children have to come to school.—The children all live within a radius of half a mile from the school.

13,477. What system of physical training now in vogue?—Army system—('Model course of drill for 'elementary schools,' since June 1902).

13,478. How long in existence? How taught and by whom?—Army system—('Chesterton,' from 1895 to June 1902). It is taught with musical accompaniments by the instructor in the drill hall. Thomas William Christie (army certificate) is the instructor.

13,479. How many hours per week or *per diem*?—About thirty minutes' physical training and twenty minutes' military drill per week. Time allotted.

13,480. Military drill, gymnastics, Swedish drill, games, etc. How much attempted? Success or failure?—No gymnastics or games. The drill is certainly a success.

13,481. Are pupils interested?—As a rule, very much.

13,482. What accommodation for some kind of physical training, inside and out?—There is a drill hall, with a piano on a raised platform, and also a covered-in and an open playground. Free exercises can also be taken in all the classrooms. Drill hall: playground with covered-in shed.

13,483. Are any games played: organised?—There are no games.

13,484. Are there continuation classes: successful?—No continuation classes. No continuation classes.

13,485. Generally what careers do pupils follow after school? *e.g.*, army, navy, merchants, farmers, fishermen, mill-hands, etc.?—The most of them become labourers, a few become mechanics, and some enter the army or navy.

13,486. Much illness at school?—No, there are very few cases.

13,487. Any medical examination of pupils?—No, unless in special cases. Medical examination.

13,488. Is such desirable at certain periods?—I do not think so, as children requiring medical examination are already specially dealt with.

13,489. Should physical training be compulsory in all schools?—Yes. Compulsory training.

13,490. And also for those fourteen to eighteen?—Yes, to a certain extent.

13,491. How could teachers learn it?—Centres could be formed in rural and outlying districts. In cities and large towns there are plenty opportunities for learning it. Teachers could learn it theoretically from books, but not so thoroughly as if taught practically. Teachers.

13,492. By whom taught and for how long *per diem* or per week?—Could be taught by volunteers, army non-commissioned officers, etc. About an hour per week.

13,493. Is there much loafing in those between fourteen to eighteen?—Yes, a great deal in this locality, but it is now gradually decreasing. Loafing.

13,494. Would physical training as part of curriculum of continuation class be popular?—I think it would.

13,495. Rifle clubs; games?—Rifle clubs would be

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popular. As for games, it would depend on the kind of game.

13,497. If drill is taught, on what system based?—On the army system.

13,498. With apparatus or without?—With both.

13,499. Any objections expressed by parents?—No objections.

Effects of training.

13,500. What effects has the physical training?—It smartens up the children wonderfully, improves their hearing and discipline generally, and enables them to throw off the slovenly habits so often acquired in such localities. It is partly a recreation, and the children are benefited both in health and general physique.

Physical education.

13,501. As well as physical training, are the ordinary rules of health taught, *e.g.*, about ventilation, air, sunshine, clothing, food, way to eat, etc.?—Yes, the ordinary rules of health are taught.

13,502. Suggest plan for attracting boys fourteen to eighteen.—Have attractions, such as competitions in shooting, swimming, boxing, etc.

13,503. You say that you have a full 'D' art certificate; what does 'D' stand for?—It stands for drawing. It stands for a complete drawing certificate.

13,504. Is your drill always with music?—Not always.

Medical examination: doctor appointed by School Board.

13,505. You say that children requiring medical examination are already specially dealt with; how are they dealt with?—By a doctor appointed by the School Board for the purpose.

13,506. But you say that there is no medical examination of pupils unless in special cases?—I mean there is no general examination of pupils in the school as a whole.

13,507. But there is a doctor appointed?—For all the schools in the Glasgow School Board.

13,508. How often does he come to you?—He has to be asked by the School Board to come and visit the children at their homes. He does not come unless in special cases.

13,509. Does the School Board pay the doctor for attendance at the school?—Yes.

13,510. But he does not make a regular systematic examination?—In the case of a parent pleading that a child is unwell, the doctor has to go and report upon him.

Loafing decreasing.

13,511. You say that there is a great deal of loafing between fourteen and eighteen, but that it is decreasing?—Yes.

13,512. What is the cause of that?—I think the fact of the 'Immoral Traffic Act' coming into force has decreased it materially—even in my own experience in looking at it.

13,513. Then you say that the parents have no objections to drill; have you asked the parents if they had any objections?—No.

13,514. Have you no suggestion as to how the money is to be got—is it by the School Board off the rates, or how would you do it, because such extra moneys cannot be got from the Department?—Can it not be got from the Department?

13,515. A certain amount, but not enough for prizes; have you considered who would supply these?—No.

13,516. But we have to think about that?—That is true.

Time.

13,517. *By Sir Henry Craik.*—You can only give twenty minutes of drill in the week?—That is the utmost limit at present by the time allowed for an instructor by the School Board to give to the school.

13,518. It is not that there is not the time, but you have not the service of an instructor long enough for the purpose?—Yes, still the time is limited.

13,519. They find no difficulty in giving 2½ hours a week in some other schools; could you do as much as that?—I am afraid not.

Games: lack of accommodation.

13,520. You have no games?—No organised games whatever. The playgrounds are all asphalt or concrete, and quite unsuitable for games. The only game that the boys think of is football, and cricket was probably never heard of in that locality.

13,521. Do you think that games have a salutary effect?—I don't think so in Glasgow. *Mr H. Muir.* 1 Oct. '02.

13,522. Why not?—They are so hampered for room.

13,523. But would they not have a good effect?—Yes, if all the pupils could be engaged in a game.

13,524. But do you not think it is a very great deprivation for children of that class, upon whose future the welfare of the country depends, that they should be deprived of as good training as the better class of children?—If it could be done, it would be better for the children.

13,525. Could they not have a central playground which they could share for two or three days in the week?—I don't think so.

13,526. You see no possibility of securing what you nevertheless admit to be a matter of vital importance?—No.

Very low class of children.

13,527. *By Mr Alston.*—I think yours is one of probably three schools in Glasgow that represent the very lowest class of people, and Dobbie's Loan for choice?—It will be one in about six which are much about the same.

13,528. But you are a very representative Board School in a low part of Glasgow?—Yes, one of the worst.

13,529. And one where all the difficulties that surround School Board tuition are at work?—Yes.

Time to be allotted.

13,530. In view of this inquiry into the present conditions of physical training, and the possibilities of largely increasing it, can you help the Commission in any way?—In order to give the time to devote to it, I think that probably the time should vary according to the ages of the pupils, and I say for infants probably ten or fifteen minutes three times a week; junior department, I., II., and III., say twenty minutes three or four times a week, and for the senior division from twenty-five to thirty minutes four times a week.

13,531. Do you think that that would be a very desirable amount?—Yes.

13,532. It is so much more than some schoolmasters have considered advisable?—In schools with advanced subjects they could have more.

13,533. Would you sacrifice much to get that very desirable amount of physical training?—No, I don't think so.

13,534. You would not need to give up much?—No, it would not be a great sacrifice.

13,535. And you would be thoroughly in favour of that?—Yes.

13,536. Do you anticipate any difficulty on the part of the pupils?—No.

13,537. And when you come to military training, you anticipate no objection on the part of the parents?—None whatever.

Uniform system in elementary schools desirable.

13,538. You use Chesterton's system?—Yes.

13,539. Would you approve of a uniform system?—Yes, in principle.

13,540. Supposing you consider the whole field of the Glasgow School Board, would you like to see it uniform?—Yes, in all the elementary schools.

13,541. Sufficiently wide and sufficiently inclusive to let you use any part of it?—Yes.

13,542. Then the interchange of pupils and teachers would not matter in that case?—No.

Teachers supervised by expert.

13,543. Would you prefer that your teachers should be the instructors?—Mainly, but to be supervised by a proper visiting instructor.

13,544. Would you not prefer all your teachers to go to a school of training and come back with a certificate of efficiency?—Yes, certainly that would do.

13,545. It would be an advantage to have the supervision of an instructor?—Yes.

13,546. And not an ex-army soldier?—No, if the teacher was properly qualified.

Food and clothing: outside agencies.

13,547. You say that your children have plenty of food?—Very unsuitable food is generally given. In their own homes they have tea and bread to all the meals, and no properly cooked meals.

13,548. You spoke of no meals being supplied by the school, but a liberal supply was given by the

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Charity Organisation Society and Church Missions, and again, you say that the Charity Organisation Society provides the supply of clothing?—Yes.

13,549. What do they do for food?—It is in connection with a sort of tent.

13,550. Not the Charity Organisation Society?—No; the food is supplied by the Glasgow United Evangelistic Association and not by the Charity Organisation Society.

13,551. It cannot be, I think?—They supply the food.

13,552. From whom, do you know?—I think Mr MacKeith, who is one of the Honorary Treasurers of the Glasgow United Evangelistic Association.

13,553. That is not the same Society; but with reference to the clothing, is that the same?—No, that is the Charity Organisatson Society. The cases are reported to the Charity Organisation Society's Poor Children's Clothing Scheme.

13,554. A case reported to them indicates a very poor class of child and parent?—Yes, and the poorest children are very often refused, because after the Charity Organisation officers make enquiries and report that the children are neglected, and that their parents are dissolute, they refuse aid, and the case is reported generally by the compulsory officer of the district to the School Board offices, and the form is served out warning them about what will take place if they don't attend to the children's welfare.

13,555. Have you heard of cases being handed over to the Society for the Prevention of Cruelty to Children?—Yes.

13,556. That shows the class of children with whom you have to deal?—Yes.

13,557. Who is the medical officer?—Dr Wilson Bruce.

13,558. He will have a very complete knowledge of all these children?—Yes, he knows them well.

fers: s pre- inate: ptions.

13,559. Is there much loafing in boys between fourteen and eighteen?—Yes, but it is decreasing.

13,560. Why do you say that?—I think since the Immoral Traffic Act came into force they don't expose themselves to the public sight as they did, and they are keeping out of sight.

13,561. Who are these loafers that you refer to?—I don't know what they do.

13,562. Are they boys or girls?—Girls predominate.

13,563. Can you follow out the course of your own children?—In my experience I have seen the very worst children to deal with exempted by the Board, and that class was recruited to a great extent by those children who were exempted from attendance at school.

13,564. Exempted by whom?—By the Board.

13,565. On what ground?—On the ground of the poverty of their parents, or that they wanted them to earn some money, and they went to the streets, but that has been lessened of late.

13,566. You had not the same difficulty with boys?—Not so much as the girls.

13,567. Is the type of loafer exemplified by these loafers around the Caledonian Central Station?—You have not the most degraded loafer there. He would not dare go there.

tary l: ctions by nts.

13,568. When you say that the parents express no objection, does that refer to purely military drill?—They have no objection whatever.

13569. To its most advanced form?—None.

13,570. Suppose it were possible to attach a cadet corps to a school such as yours, would there be any objection on the part of parents?—I don't think so.

13,571. Are there districts in Glasgow where there would be objections?—Yes.

13,572. Is that principally amongst the Irish?—Yes, but that is only from hearsay.

13,573. Is that from the ignorance of the parents?—From prejudice against military service and ignorance combined.

13,574. Your plan is attraction and not compulsion?—When I made the suggestion, I thought that it was outside of compulsion.

13,575. Have you any opinion as to whether there should be compulsion at the age of fourteen to eighteen?—Yes, certainly, I think there should be compulsion.

Mr H. Muir. 1 Oct. '02.

Compulsion for those fourteen to eighteen.

13,576. How would you attain it—whom would you compel, and how would you get them?—That is the difficulty.

13,577. You have no solution?—No.

13,578. *By Mr Fergusson.*—As to the question of these neglected children, you say that they are reported to the Charity Organisation Society, and they reject them because the parents are dissolute?—Yes.

Neglected children: how dealt with.

13,579. And then they are dealt with by the School Board officer, and after that fails, they are handed over to the Society for the Prevention of Cruelty to Children?—Yes.

13,580. After all, can you bring the parents to book?—They generally give in to the School Board circular.

13,581. You deal effectually with these children?—Yes, mostly.

13,582. It is disappointing to hear from you, who have had to do with one of these very poor schools, that you cannot suggest any means by which these poor children can be given any opportunity of playing games or having any amusement; I rather gather that from your answer?—If there was a place where games could be taught, and I say there are no games that they take an interest in except football or pitch and toss.

Games.

13,583. Is there any park near you?—There is a park within 300 yards of the school, but they dare not play games there. It is gymnastics and swings that are there.

13,584. If that restriction was removed, would they play if they were allowed?—Well, it is laid off more for gymnastics. It is only a space—not a park.

13,585. There is no place where games could be played?—No.

13,586. Your experience is that these exemptions given to children as a rule make for evil?—Yes, in the majority of cases.

Exemptions.

13,587. It is a bad thing?—Yes, it is a bad thing altogether.

13,588. And are the School Boards recognising that it is doing harm?—Yes, they do fully now.

13,589. *By Mr M'Crae.*—Do many of your children get casual employment before they go to school in the morning and after school hours?—I think a good many go with milk and papers.

Casual employment of school children undesirable.

13,590. Do you think that is a great disadvantage to children?—Yes, the children are worn out with their labours in the early morning, and it is quite a common occurrence to find children sleeping in their seats.

13,591. Is it the poverty of the parent that compels them to resort to that?—I don't think so. There are so many agencies in the district that the more they get from one the more they want from another. I mean that the Charity Organisations overlap, and if they get help from one they go to another. These organisations are meant for the best, but really they do harm in a great many cases. The people have lost their spirit of independence altogether.

Philanthropic agencies: overlapping: evil results.

13,592. Do you know many cases where increasing the school age to fourteen has been a hardship to the industrious poor?—With a very few it is a hardship.

13,593. You have no continuation classes?—These classes are held within centres, and there is a centre within 100 yards of where I am, and it is a small number that take advantage of them.

Continuation classes: physical exercises might be attractive.

13,594. Do you not think it would be an advantage to try and keep hold of the children after leaving school, if they were given the advantage of physical training on alternate nights; would that be an inducement?—I think it would.

13,595. Do you think you would get hold of them in that way?—To a certain extent, I think you would.

13,596. *By the Chairman.*—On the question of food, I suppose they are principally given tea?—Dry bread and tea mostly, no oatmeal or vegetables or soups of any description. The majority of them would not

Food.

Mr H. Muir. 1 Oct. '02.

be troubled cooking dinner, and many of them have not the utensils to cook dinners. That is a large proportion.

13,597. But the old custom of a little oatmeal in a basin and a little hot water poured over it has gone out?—Yes, they would not be troubled with it.

13,598. That was very easily done, and very wholesome?—Yes, but the easier way is to go to a shop and get a loaf and tea. That is about the outside of what they do. There is a number of them who get properly cooked meals; that is the best of them.

Mr H. Muir. 1 Oct. '02.

The witness withdrew.

Miss Kate Hunter.

Miss Kate Hunter, examined.

Miss Kate Hunter.

Girls' reformatory.

13,599. *By the Chairman.*—You are Superintendent in Chapelton Reformatory for Girls, Bearsden?—Yes.

This reformatory is beautifully situated in the country, five miles north of Glasgow, and thither female delinquents are sent from the courts on a variety of charges—theft, burglary, falsehood, fraud, and wilful imposition, or general pilfering.

Education.

English, writing, arithmetic, and domestic science in all its branches are taught to the inmates without exception, about 94 per cent. of them ultimately taking situations as domestic servants.

Conditions.

Girls on admission must be certified Protestant and healthy, and none may be detained after she has reached her nineteenth birthday, but any well-behaved girl may be licensed out to respectable employment at any time after her first eighteen months in the institution.

Parents.

As a general rule the girls come of very poor parentage, 62 per cent. from homes rendered miserable by the drunken habits of the parents; 36 per cent. have only one parent; 4 per cent. are orphans, while many have stepmothers.

The childhood of these girls has been passed, for the most part, on the streets; a few have never been to school, and the very large majority are only fit, on admission, for Standard II. Seen their miserable family circumstances, their life out of doors has not been without its advantages for their physical development, for they have thereby obtained plenty of open-air exercise, and the sometimes all too scanty home diet has frequently been supplemented by food or its equivalent, earned by doing odd jobs or running messages.

Ages.

The average age of those at present under detention in the institution was, on admission, thirteen years, and their height 4 ft. 6¾ ins. Their present averages, after a period of two years and two-twelfths of detention, are: Age, fifteen years and ten months; height, 4 ft. 10 in.

When the girls come to us they are slovenly in gait and habits, have an aversion to lacing their boots (which they prefer to wear in pantouffle style), are frequently round-shouldered, with receding chest, and are, in many cases, unable to assimilate the nourishment provided in a wholesome and regular diet. The natural result of this latter condition is, of course, anæmia, many cases of which have had to be treated here. For some years we confined our efforts in the matter of development by drill to the ordinary so-called 'Musical Drill,' comprising free, dumb-bell, bar and club exercises, but while these undoubtedly helped to improve the gait, and interested and amused them, the improvement in the general health of the girls was scarcely observable. I should not like it to be understood that, after, say, one year's detention in this reformatory, girls were weakly or delicate, for, thanks to long country walks, plentiful and good diet, etc., their health has always been above the average. Cleanliness of person has always been attended to here, but it was not until we began to give the girls half an hour of physical culture five days a week, followed by a tepid bath in winter and a cold one in summer, and, during the warm weather, an hour per week of swimming in the public baths under qualified teachers, that anæmia might be said to have disappeared from among them. On Saturday each girl gets a hot lather from head to foot, followed by a cold douche. In following out this treatment systematically we have been guided (and our teacher has been trained) by Mr Cowan St Clair, of the Physical Culture College, Glasgow, in whose opinion the baths are a most important accompaniment of the exercises. In fact, the result of my two years' experience of this system has been, that anæmia, faulty development, and eczema, have not only been greatly modified, but that they have practically 'ceased from 'troubling' the inmates of this reformatory. That the moral effects of this training have proved as satisfactory as the physical, I need hardly state, for this result is only to be expected.

Musical drill tried: now complete systematic course of physical training with baths: effects.

On the system itself I need not enlarge here. In closing, I would beg to suggest that classes for physical culture should be given daily in every school in the country (accompanied by drills and baths), as I feel convinced that the result thereof would be not only a people of finely-developed physique, but of healthy and vigorous intellect, and of strong but refined moral influence.

13,600. Do the young girls that you speak of all come from Glasgow?—Yes, the very large majority come from Glasgow.

13,601. Do you give these girls actual physical drill?—Yes. Physical drill given daily for half an hour.

13,602. How much a week?—Every day half an hour.

13,603. And do they like it?—Very much.

13,604. Is it always with music, or is it sometimes without?—The physical culture is much more serious than the drill. We don't give music at all with physical culture. We make the girls inhale and exhale regularly while exercising.

13,605. The other is more to amuse them?—Yes.

13,606. What assistance have you there?—I have five young women, three of whom are in training to become superintendents of reformatories themselves, and, as such, they pass through a training for the drill. One learns physical culture thoroughly, and the other goes in for drill. The physical culture is taught at the Training College at Charing Cross, and the drill master teaches the other one privately. Teachers' training.

13,607. Under what department is this reformatory; who keeps it up?—The Home Office and the City is assessed for the school also. It is under the Juvenile Delinquency Board.

13,608. *By Mr Fergusson.*—You have really very unpromising material to deal with?—Yes.

13,609. And yet your experience is that particularly by attention to physical training and all sorts of baths you can turn out a very good finished article?—Yes. Anæmia has practically disappeared. We have not had any case in the house for two years practically. Result of systematic training on unpromising material: 80 per cent. turn out well.

13,610. You say that your system, if followed in every school, would be very good. I daresay we might do drills, but the baths would be very difficult?—Yes, but in the day industrial schools in Glasgow they have large baths for say sixteen, and the children come in the morning.

13,611. What becomes of these girls after they leave you?—They all go to domestic service.

13,612. And do they as a rule do well?—The statistics are sometimes misleading, but I made a calculation myself on a five' years report, and I found that 80 per cent. were doing well, were keeping out of police offices or prisons and doing well, some of them extremely well, and others not so brilliant, but still keeping out of trouble. Eleven per cent. had really gone to the wall, and the rest were unsatisfactory.

13,613. But still, if you had not had them it would have been the other way about; the 80 per cent. would have gone to the wall?—Yes, but one does not know.

13,614. *By Mr M'Crae.*—Is there any particular system of physical drill which you adopt in your reformatory?—We have the dumb-bells, but we don't do nearly so much good to the girls with that drill as Physical culture and physical drill: former preferred.

with the physical culture. The bar bells and free exercises are what they call 'physical drill,' which smartens them up and teaches them obedience and discipline, but the physical culture has prepared them, as it were, for the other and made them very much stronger.

13,615. But there are at least three systems —Cruden's, Chesterton's, and the Army system; and do you give them physical drill on any particular system?—I think it is the army system, because it was a retired army man who introduced it. He is coming just now every Saturday to give the girls one hour's training.

13,616. Do you know what qualifications he has?—I think he is a retired sergeant. He teaches in Partick Academy, and many other places in Glasgow.

13,617. Do you know what certificates he has?—No.

13,618. But you are rather inclined to the physical culture?—Yes. I think it is more useful. It is useful, and the other is ornamental.

13,619. But is the other ornamental if it is properly done?—No. I would put it away altogether if I thought it was entirely ornamental, but, during the two years, the physical culture has been very much more satisfactory than the physical drill was alone before, and the girls have been well bathed and kept clean. It is only within the last two years that they have been bathed every day.

13,620. The improvement may be traced to that?—Yes, we give them the drill and the physical culture at a time when they are not hungry and not digesting, very much between meals.

13,621. *By Mr Alston.*—You are drawing a distinction between physical drill and culture; do you use the word culture as applying to Mr Cowan St Clair's teaching?—Yes, the development of the chest and the muscles, and the children understand it as such. When the teacher says, 'We will take the exercise on the deltoids,' the girls are ready at once, and they know where their deltoids are.

13,622. You have taught them anatomy?—They learn physiology for the ambulance certificate.

13,623. You tried the extension motions and dumb-bells before?—Yes.

13,624. How long did you carry on these?—For seven years. I have been nine years at Chapelton.

13,625. And had you experience of handling these girls before you had physical training at all?—Yes. We could not get them to play or to move smartly. They had a very bad gait and were very bad walkers.

13,626. And you had no means of bringing about a change of style and bearing?—No.

13,627. But you introduced discipline with your physical training?—Yes, before that.

13,628. But you got it in the exercises and words of command?—Yes.

13,629. How did you hear of physical culture?—I read about it in some magazine, and I thought that it was what I was looking for. I went and put myself under the training of Mr Cowan St Clair, and I saw it was something good from my own experience, and I sent a Miss Blackwood, who is now my assistant, to get training there.

13,630. And you are satisfied with the results?—Yes.

13,631. It has given you a new lease of that school?—Yes.

13,632. You could not have accomplished before what you are accomplishing now?—No, and it gives the girls a sort of *esprit de corps*.

13,633. They see that they are attaining more?—Yes, they feel smarter all round, and they have more self-respect.

13,634. As to the class of girls, and as to their criminal propensities, you have feeble-minded girls among them?—Yes.

13,635. Is the percentage large?—No, I would not say so.

13,636. Do you expect to find as many in the Girls' School, Maryhill?—I think more.

13,637. How would you account for that?—Ours are weeded. They are certified healthy and sound-minded when they leave the court.

13,638. But the Maryhill girls are caught before that?—Yes, and some are sent back to their parents.

13,639. Have you been able to improve the condition of the feeble-minded girls?—Yes, in some cases, but not in other cases. The last one who was sent to the lunatic asylum went quite wrong in the mind. She had incipient insanity before she came to us; she improved morally and physically, but these attacks of insanity came on not in consequence of weakness of physical health, but perhaps in consequence of a superabundance of strength. She was a tremendously strong girl.

13,640. Your methods could not help failing there?—No.

13,641. But you have improved the condition of the feeble-minded?—Yes.

13,642. Do you attribute that to the physical training or to the general discipline of the school?—The general discipline, I should say.

13,643. Your own handling of these girls perhaps more than physical training?—Yes, but with insanity we have failed, and made no difference in cases of insanity.

Girls' conditions of life.

13,644. *By Sir Henry Craik.*—I was going to ask you about one paragraph. You say, 'Seen their miserable 'family circumstances, their life out of doors has not 'been without its advantages for their development.' That is the old life previously?—Yes.

13,645. That is when they were hanging about the streets?—Yes.

13,646. And it did strengthen them to a certain extent?—As they became older and coming about fifteen they would sit a great deal by the fire at home and drink a great deal of tea, and they consequently lost a great deal of physical force, but if we get them younger and straight off the streets, the gamin and the arab are stronger, as a general rule.

13,647. You mean that the girl who is restricted in running about the streets will really be in a worse state of health than the street arab?—Probably.

13,648. And in her case the need of this physical training which has succeeded with you would be even greater?—Well, physically it might, but morally not.

Parents' control.

13,649. They would not want it so much morally? —No, if the children had been under control at home; but one must start with the understanding, of course, that not one of my girls has ever been controlled by her parents. They don't know what control is.

13,650. Moral control is not wanted in the case of these respectable children?—In all cases it is wanted, in the case of respectable parents also.

13,651. But as a mere physical result even more is required by the children who attend the ordinary State-aided schools?—Yes, because they have not been running about so much out of doors.

13,652. What is the number in your school?—Fifty-two at present.

13,653. Have you had experience of other schools?—Yes, young ladies' schools.

13,654. But in any State-aided schools?—I have not taught in them.

13,655. Do you find any difficulty in discipline, or are they obstreperous?—They are never obstreperous in a body, but individually they are occasionally.

13,656. The result of your experience is that without this physical training it would be perfectly hopeless to do any good with these children?—No, much good had been done before I went to Chapelton.

Physical exercises: beneficial result.

13,657. But you had difficulty in maintaining them under control?—There were not so many girls at that time. One direct effect I trace to this physical training is the increased smartness of the girls in moving about and in learning to do things, and consequently when they go out they take superior positions—I mean, what are superior positions to them. They become laundresses and housemaids, whereas before they became general servants at 6s. a month to begin with when they went out, and got rarely more than 10s. a month.

Miss Kate Hunter.
1 Oct. '02.

13,658. And you attribute a great deal to this development by physical exercises?—Yes, a very great deal.

Manners improved.

13,659. *By Sir Thomas Glen Coats.*—Is there an improvement on their accent and the manners of the girls?—Their manner is certainly improved, but the Gallowgate accent seems so deeply embedded in them that it is a decided part of their whole being. In the playground they forget everything but the Gallowgate accent.

Influence of parents and old associates.

13,660. Do many of these girls fall under the influence of their parents or companions after they leave you?—Some do. Nearly all the ill-doing ones are under the influence of their parents.

13,661. But many of them are so strengthened morally that they escape that?—If we place them far away from their parents. We try to keep them a distance from their parents. We are keeping one girl, who was practically kidnapped by her parents for the sake of her box and outfit. She came from England on a holiday, and we had to go for her with a policeman and a detective and deliver her from her own parents.

13,662. Do you find any danger from the old associates?—Yes, if the discharged girls are placed where there are old associates, but I place one in Saltcoats, and one in Edinburgh, and one in London. They think they are getting together again when they are sent to London, not knowing that it is a Sabbath day's journey from Surrey to Hertfordshire.

Miss K. Hunte
1 Oct. '

Plenty of employm for the gi

13,663. *By the Chairman.*—Have you difficulty in getting people to take them?—No, we have far too many situations for them.

13,664. No difficulty whatever?—None whatever. When they make their own characters after they have been in the situation that I put them into, and if their mistress does not increase their wages and does not wish a trained girl, I tell them to look out for a situation for themselves, and they get offers of situations in good families. That is owing to the character they have earned since they have left us, and I don't appear as referee in that case. They go as independent girls, and I don't even write to them on paper headed 'Reformatory School' in case they should get into trouble that way.

13,665. *By Mr Alston.*—Is it drink that is at the bottom of all this?—64 per cent. have drunken parents, either one or the other, and sometimes both. In the case of the girl that I mentioned, it was drink that was the cause with both parents.

The witness withdrew.

Adjourned.

TWENTY-SEVENTH DAY.

Thursday, 2nd October 1902.

At the City Chambers, Glasgow.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

Sir THOMAS GLEN COATS, Bart.	Mr J. C. ALSTON.
Sir HENRY CRAIK, K.C.B.	Mr GEORGE M'CRAE, M.P.
Mr M. H. SHAW STEWART, M.P.	Professor OGSTON.

Mr R. B. PEARSON, *Secretary.*

Mr. R. E. Thomas.
2 Oct. '02.

Mr R. E. THOMAS, examined.

Mr. R. Thom
2 Oct. '

13,666. *By the Chairman.* You are chief instructor of physical exercises with the Leeds School Board?—Yes.

13,667. Will you kindly read your *précis* of evidence?—

Physical Training under the Leeds School Board.—No effort has been spared by the Leeds School Board to make the physical training as thorough and complete as possible. Over 50,000 scholars receive instruction in physical drill, and scholars of the upper standards (IV. to VII.) are also taught to swim. The physical drill is divided into two main sections—elementary military drill and physical exercises with dumb-bells, wands and Indian clubs.

The military drill secures smartness and precision in class movements, while the physical exercises strengthen the muscles and develop the physique of the children.

The work may be most conveniently reported upon under the following heads:—

(*a*) Evening Classes for Teachers.—To thoroughly ground the teaching staff in the various movements, and thus enable them to efficiently train their own scholars.

(*b*) Training of children in elementary Board Schools.—By teachers who have received certificates of proficiency under head (*a*).

(*c*) Training of children in higher grade Board Schools, with use of gymnasium, by special instructors.

(*d*) Training of children in Board Industrial Schools.

(*e*) Training of children in swimming.

(*f*) Continuation classes.

(*g*) Inspection.

Teachers' evening classes.

(*a*) Evening classes for teachers.—In 1883 the Board established classes in Swedish drill under the supervision of a trained teacher, and this system was continued until 1890, when teachers' classes in musical drill were established at the gymnasium of the Central Higher Grade School. With certain modifications these classes have been continued with conspicuous success to the present time.

Course of instructio

Each session extends over twenty weeks, with two lessons of one hour per week. Separate classes are held for head and assistant mistresses and head and assistant masters. Teachers from voluntary schools are admitted on payment of a small fee.

Thorough instruction is given in elementary military

drill, the various turns, forming company, forming fours, etc., and also in physical exercises with dumb-bells, etc. These exercises have been very carefully arranged from simple movements to more advanced, to bring into vigorous action the principal muscles, special attention being given to those of the trunk. The instructor explains the effect of each exercise on the particular group of muscles used in performing the movement.

At the end of the session the teachers are examined, and, if competent, are granted a certificate of proficiency by the Board.

The examination is very searching, candidates having to perform the exercises taken during the course, and to thoroughly satisfy the examiner of their ability to handle a class. 1780 teachers' certificates have been granted during the past eleven years.

The effect of the regular and systematic exercise on the teachers is most beneficial, especially amongst the mistresses. When the session begins the teachers all over show a stooping and inert figure, while towards the end of the course a decided improvement in their carriage and bearing is noticeable. Enquiry amongst the teachers shows that attendance at these classes improves their general health.

In continuation of the evening training classes, Saturday morning has been set apart for recreative classes for those teachers who desire to take a course of gymnastic training. These classes have been well attended by the mistresses, to the manifest improvement of their health and physique.

The exercises are carefully selected, and each student is under the immediate supervision of the instructor.

(*b*) Training of children in Elementary Board Schools.—Prior to 1895 boys and girls were trained under different systems; the boys were instructed in military drill, with a few extension movements, under the supervision of a drill sergeant, and some of the girls were taught musical drill with dumb-bells and wands.

In 1895 the present system of combined military drill and physical exercises was introduced, subject to certain modifications for girls.

The work is now taken by the teachers, who are responsible for their own classes.

This arrangement works well, as both teacher and children feel the exercise a pleasant change from ordinary school studies, and enter with interest into the various movements. One great advantage is that the teacher knows fairly well the capacity of each child, and can thus relieve the weakly ones from undue strain.

Children unfit for drill are excused.

The exercises are carefully graded, those for the lower standards being simple, and gradually leading up to those for the upper standards.

The exercises are taken in the open air when possible; if the weather be inclement the work is done in the school, and the doors and windows thrown wide open to ensure ventilation. Standing on forms or desks is prohibited.

Special attention is given to marching, so that the children may move in an easy, graceful way. The changing of classes in school is always done to music, and in some of the larger schools it is an interesting sight to observe the smart, graceful way in which the necessary changes are made.

One hour per week is allotted in the school time-table to drill and physical exercises, in two lessons of half an hour. If, however, the attention of the class is flagging at any time during an ordinary school lesson, the children are instructed to stand up in their class places, and a few vigorous movements are taken for two or three minutes: this short exercise brightens the class, and the lesson is resumed with fresh spirit.

Experience proves that a systematic course of physical training has a decidedly beneficial effect on children of a timid and retiring nature, who are stimulated by having to join in and keep up with the others.

It may be pointed out that beyond the physical and mental benefit to be derived from the work, the lessons of prompt obedience to word of command and of fixed attention to the movement in progress are invaluable to the scholar, and cannot fail have a salutary effect.

Music: pianos in schools.

Recognising the value of music as an aid to physical exercise, the Board has provided pianos in most of the schools, and these have been found to add materially to the brightness, precision and finish of the movements.

Infants' drills.

In the infants' schools various simple drills are taken with musical bells, wands, hoops, etc.; the exercises are made as pleasing as possible, and as each of these departments possesses a piano, the work is made very bright and attractive.

Training in higher grade schools.

(*c*) Training of children in higher grade schools.—The Central and Cockburn Higher Grade Schools are each provided with a fully-equipped gymnasium, containing all necessary appliances for thoroughly developing the physique.

The children at these schools are taught (by special instructors) various drills with dumb-bells, wands, and Indian clubs, etc., and also receive careful instruction on the varied apparatus.

System: eclectic selection of exercise.

In selecting the exercises, an eclectic method has been pursued; no particular system has been strictly adopted, but the most suitable exercises have been selected from each. The movements are graded to suit the capacity of the various classes. No hazardous movements are allowed.

Gymnastics for girls: special costume.

Girls who take gymnastics are required to wear a special costume appropriate to the work.

The effect of regular systematic gymnastic exercise for girls from twelve to sixteen years of age has been found most beneficial. In addition to the two Higher Grade Schools, the Board has provided a fully-equipped gymnasium at Cross Stamford Street School, which is situated in a very poor part of the city. This has proved a centre of excellent work in the district.

Industrial schools.

(*d*) Industrial Schools.—The children attending the Board's Day Industrial Schools receive instruction in military drill and physical exercises. At one of these (Edgar Street) a gymnasium has been provided, and the lads are taught elementary work on the apparatus.

The Board has two residential Industrial Schools—one at Shadwell for boys, the other at Thorp Arch, about fifteen miles from Leeds, for girls. Each of these schools has an excellent gymnasium, of which the fullest use is made.

The children take great interest in the gymnastic work, and their physique has greatly improved.

Swimming.

(*e*) Training of children in swimming.—Recognising the great importance of this branch of physical training, the Board have erected baths at five schools, and as there are five Corporation baths available in various quarters of the city, swimming has been made one of the ordinary subjects of instruction.

The school time-tables have been arranged so that boys and girls in Standard IV. and upwards may visit the baths once a fortnight during the summer season accompanied by one of the teachers.

Time allotted to lessons.

The squad is restricted to twenty-four children, and the lesson, under a qualified instructor, lasts for forty-five minutes (fifteen minutes for land drill, fifteen in the water, and fifteen for dressing and undressing).

Life-saving.

The children are taught the correct ways to approach a drowning person and how to rescue them, and also how to restore respiration.

Very weakly children and any who may have a tendency to fits are carefully excluded from swimming.

Attendance.

The following statistics of attendance and results will give an idea of the work accomplished in 1901:—

Visits paid.	Number under instruction.	Certificates issued.
127,05	9200	1203

In addition to the swimming instruction during school hours, arrangements have been made for the children to visit the baths after school hours—on Saturdays on payment of a halfpenny, and during holiday times on payment of a penny. £170 was taken last year in this way.

Continuation classes.

(*f*) Continuation Classes.—In addition to the

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evening classes for teachers, the Board has established night classes for young men and women in business. These classes are held at the gymnasia in the Cockburn Higher Grade School at the south end of the city and Cross Stamford Street School in the north district. These classes have been attended with great success. A small fee is charged, which is reduced when the student is attending another of the evening classes.

Gymnastic classes for young men and women.

Instruction is given in the various musical drills, and in elementary and (with men) advanced gymnastics.

A number of young men who have regularly attended these classes have made excellent use of the skill thus acquired by forming and instructing classes in connection with places of worship in the city and district.

Inspection.

(*g*) Inspection.—Each school is visited three times a year by the chief instructor, to see that the work taught at the teachers' classes is thoroughly carried out. A general report on the school and individual reports on the staff are furnished each year.

In cases where the drills are inclined to be done in weak style, the instructor gives a specimen lesson with one of the classes in presence of the whole of the staff. Weak spots are indicated, and the teachers are shown how to strengthen them.

Cost of system.

Cost.—The cost of the Board's system of physical training amounts to £380 per annum.

Games: interest of teachers.

It is pleasing to note the great interest taken by the teachers in the games of the children. In the playgrounds the staff may be seen vigorously taking part in seasonable games with the scholars, with good results to all concerned.

Athletic sports.

Athletic sports are organised annually for the children, and prizes are given to the successful competitors in the various standards.

Football League.

A school football league has existed in Leeds for several years, which has done much to promote a spirit of manliness and fairplay amongst the lads.

Systematic training: advantage over games.

It should be borne in mind, however, that as a rule chosen teams of lads from each school take part in football contests, whereas one great advantage of a complete system of physical training is that strong and weak—girls and boys—can participate and derive very great benefit therefrom.

I have given a brief account of our physical training under the Leeds School Board, and shall now proceed to mention one or two matters which may be of interest to the Commission.

Special hall recommended.

I find as a general rule that many schools suffer through not having a suitable place in which physical exercises may be carried on during inclement weather.

When the weather is favourable the work should undoubtedly be done in the open air, but during the winter the drills have often perforce to be taken in the schoolrooms.

We in Leeds are very well off, as many of our schools have large central halls, which are admirably adapted for drilling.

In many schools throughout the country considerable ill-health ensues through the children (the girls particularly) receiving chills while out for drill.

I would strongly recommend that each school should have a special room in which each class might carry on their physical exercises.

It would need no elaborate furniture, simply the bare walls and the necessary racks for the dumb-bells, etc., but it would be a great boon to both teachers and scholars.

The value of continuation classes.

I have already referred to the continuation classes we have in Leeds, and I would like to draw special attention to the value of these classes as a means of improving the national physique.

There certainly should exist some machinery for securing the attendance at physical training classes of lads from fourteen to eighteen.

During these years the lads could be harmoniously developed, and at the age of eighteen would be found to be thoroughly well set up and in the best of condition.

I can confidently say from my experience in Leeds, that if work on these lines could be carried out throughout the land, the national physique would benefit to an enormous extent. We have the raw material, but, unfortunately, for want of proper training it is going to waste.

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Young men, after having passed through such a course as I have indicated, would be well prepared and ready for the volunteer or regular service.

Cricket, football and similar games, while admirable in themselves, are not sufficient to develop the frame thoroughly. It is also important to notice that amongst the poorer classes the facilities for indulging in these games are really very limited, and as these classes form a very large proportion of the population, their requirements must not be overlooked.

Games should be encouraged.

I certainly think these games should be encouraged as an aid to physical training, and it would be an excellent thing if County and Borough Councils were to provide the necessary grounds for these recreations.

True object to improve national physique.

Another point I would like to mention, viz., the tendency in the present day to exalt the 'strong man.' Our object should be not to turn out occasional giants of strength, but to ensure that the bulk of our young people should receive careful physical instruction, in order that the national physique should be of a high average.

There must be some who are naturally gifted beyond others, and who must rise to the top in feats of skill and strength, but I maintain that special attention should be given to the weakly ones, to build up their strength and thus ensure the strength of the nation.

Inspection and examination by chief instructor.

13,668. We are all very much obliged to you for your very interesting evidence, and for your having come to us from such a long way off. I want to know if you can tell the Commission who conducts the examination which you mention as being very searching?—I conduct the examination.

13,669. As well as the occasional inspection?—Yes, by special wish of the School Board. When I went first I did not like the idea, but the Board wished me to do it.

13,670. You are chief inspector and chief examiner also?—Yes, I did not like it myself. I thought that an outsider should come in to examine, but perhaps I am really stiffer than an outsider would be, as I know all their weak points.

Children unfit are excused.

13,671. You say that children unfit for drill are excused. Who excuses them?—The teachers. Suppose a child has a badly twisted leg, then he would be excused.

13,672. If a child does not feel inclined, it can apply to be excused?—Yes. We leave it in the discretion of the teacher.

Residential and Day Industrial Schools.

13,673. Are the industrial schools penal schools in any way?—No, the children there are children whose parents won't send them to school, or are children who won't go. If the parents will not send them, then the Board steps in and says, 'You must send them,' and it provides these schools for that class of children.

13,674. What is your procedure?—They summons the parent, and the magistrate gives an order that the child has to go to school.

13,675. Who do they summons the parent before?—The local magistrates.

13,676. Does that often happen in Leeds?—The boy's residential industrial school is for 180, and it is full, and the girls' residential industrial school, which is for 100, is also full. The day industrial schools are for about 120 each.

13,677. They board at the residential schools?—Yes.

13,678. They are taken away from their parents altogether?—Yes.

13,679. And they are thus forced to go to school?—Yes. In the day industrial schools they go for breakfast in the morning and stop for dinner and tea, and then they go home at night.

Continuation classes.

13,680. How are the continuation classes for young men and women made known?—The Board advertise them, in the syllabus that they issue at the beginning of the winter session, and special bills are also sent round.

13,681. Do young men and women attend them who don't go to other classes?—They are not compelled to attend another class, but as a rule they do so. They will join, for example, a class in mechanics and attend the physical class as well.

13,682. But they are not obliged to do that?—No.

13,683. Towards the end of your remarks you rather deprecate the strong man. I suppose that is Sandow's system you refer to?—Yes.

13,684. What system have you got?—I like dumb-bell work and all work with light apparatus, *i.e.*, clubs, wands, etc.

13,685. Is it the Swedish system for boys and girls, or is it the military system for boys and Swedish system for girls that you use?—I don't care for either of them. The Swedish system is too severe and uninteresting, and the military drill is also rather severe.

13,686. That is on children, but not on those over fourteen?—I think it is. We take the best out of the Swedish and the best out of the military drill.

13,687. You have got no named system that you could recommend?—No.

13,688. What you use is a modification of the military drill?—Yes, that is as regards the 'Formation' work. Some of our exercises, such as Indian clubs, are not taken in the Army Scheme.

13,689. *By Sir Henry Craik.*—Do you find any difficulty as to the feeding or health of the children?—Only at certain times, as, for instance, when there are big strikes on, or anything like that, and the parents earn very little. The children are rather under condition then.

13,690. At ordinary times you think the feeding and clothing are satisfactory on the whole?—Yes, decidedly.

13,691. Have you seen any deterioration in physique in the course of your experience?—In certain schools in the lower districts of the town the physique is not up to the physique of the children in the schools in the better quarters. I have been in Leeds for twelve years now, and I think that the physique of the children has distinctly improved.

13,692. You don't think there is any necessity for providing food as a means of developing physique?—No, not in ordinary times, but in times of stress the Board do that.

13,693. Have you ever made inquiry as to the food that they do get among poor children?—Yes, as far as I can from the teachers who visit among the children.

13,694. You have had no crying cases of bad feeding or insufficient nourishment?—No, except at these special times, and they are exceptional, the times when the parents are not earning money, and as they have no reserve they have to live from hand to mouth. If it was not for the teachers, the children would come off very badly.

13,695. At these times do you lessen the physical exercises?—Yes.

13,696. You find that it is not possible to do the exercises when the feeding is less?—They are very much weaker, and not able to take physical exercise. Even then some of the children are so proud that they prefer almost to starve than to accept food at the hands of the teachers. The staff go down about 7.30 or 8 o'clock in the morning and prepare soup and get everything ready, and the children have simply to come and take it, but, as I say, some of the children don't seem to care to come. In all cases like that the teachers use their discretion, and if they see that the children are insufficiently nourished, they only let them take a little physical exercise.

13,697. In these continuation classes you come into close contact with the older boys of fourteen to eighteen?—Yes.

13,698. Do you think that physical exercise is very important for them?—Yes.

13,699. Would you be prepared to advocate a compulsory system?—Not at first. I should advocate for three years a system of classes like we have in Leeds, attracting them so far as you can, and if they don't come then there would be nothing else but to make it compulsory. I think I should give them a chance first by offering prizes and so on.

13,700. Do you think it would be a good thing in the Code to make physical exercise a necessary part of these continuation classes?—Yes.

13,701. You don't think that any pupils would object to that?—I don't think so.

Cost.

13,702. You say that your system of physical training costs the Board only £380 a year?—That is the cost of the special instruction. Of course the teachers take their own classes and are responsible for them, and practically the only extra expense is the expense of the instructor and assistants to teach the teachers. That is what I mean by that £380. Of course you cannot very well divide the teachers' time and say that so much must be given to teaching physical exercise.

13,703. There may be further expense due to a slightly increased staff?—I don't think so.

Teachers compelled to attend evening classes, unless medically exempted.

13,704. The teachers don't complain that it is imposing an undue burden on them?—At first they did, but they don't complain now.

13,705. A little management got over that?—Yes, a little tact. We compel the teachers to attend the night training classes unless they can produce a doctor's certificate stating that they ought to be exempted. If we get a teacher fresh out of College, we give him some twelve months to turn round, but after that every teacher, male and female, has to attend these classes. They disliked it at first, but they have fallen in with it, and find that it really does them good. When they come in at first I notice that they are stooping and quite limp, and all that, but they are very well set up by the end of the term.

13,706. What you do might be extended to all teachers under School Boards generally?—Yes.

13,707. What proportion of the children in Leeds go to the School Board schools.—There are about 80,000 children in Leeds, and of these about 50,000 go to the Board schools, and 30,000 to the Church schools.

13,708. Is there any system of physical instruction given in the Church schools?—There is no organised system like what there is under the School Board, but many of the Church School teachers have attended these classes and teach their children.

13,709. You don't inspect these schools?—No, I have nothing to do with them.

Time.

13,710. *By Sir Thomas Glen Coats.*—You give one hour per week to the children?—Yes.

13,711. Do you consider that that is quite sufficient?—No.

13,712. You would rather give more?—Yes; I would recommend half an hour a day. I put that point very strongly before the Board, but they shake their heads and say that physical exercise is not the only thing in the course. What I have got is all that I can get.

13,713. Are there any military or ex-military instructors employed?—There is just one sergeant-major who comes for one hour a week to the central higher grade school. He really came before I was there, and they kept him on. He just comes for an hour on Friday afternoon and puts the pupils through a few turns and extension movements, and that sort of thing.

Teachers.

13,714. In the Board Schools your teachers, both men and women, are of different ages?—Yes, we have them from twenty years to sixty years of age.

13,715. Do you find all the teachers capable of receiving instruction and imparting it?—Yes, except the cases I have mentioned where they have a doctor's certificate. They may not all be able to receive the instruction perfectly, but still they can teach it.

13,716. Are your schools mixed schools?—I have all kinds of schools—some mixed, some boys', and some girls'.

Boys and girls.

13,717. Would you have the boys and girls taught in the same classroom?—Yes, that is done in the ordinary work.

13,718. But would you have the physical drill done

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that way?—As a rule we arrange it this way; there are two classes, and one teacher will take the boys from each class, and another teacher will take the girls, so that the boys drill by themselves and the girls by themselves. They are also taught together.

13,719. Do you find that the female teachers can instruct the boys, or do they instruct the boys at all?—Yes, the junior boys.

13,720. The quite small boys?—Yes, up to about nine or ten. In fact, I find some of the lady teachers quite as smart as the men, and quite as capable of giving instruction. They are very clever.

Swimming.

13,721. You have splendid facilities for teaching swimming in Leeds?—Yes.

13,722. In your £380 you have not included the swimming?—No.

13,723. That is rather an expensive item?—Yes.

Continuation classes: attended by good class, not by loafers, etc.

13,724. From what you say, I take it that the young people who attend the evening continuation classes are rather a superior class—they are not those that we might perhaps most wish to get into classes of that kind?—They are mostly young mechanics and girls in shops.

13,725. Who are willing to pay something?—Yes.

13,726. You induce them to take the other classes by reducing the fee for the gymnasium?—Yes, with a fee of 3s. 6d., 2s. 6d. would be for one class and 1s. for the gymnasium, and that will last for the whole of the winter course.

13,727. You don't get the loafer class?—No, those are all young men and women who want to advance themselves and to get on.

Loafers: persuasion, not compulsion, unless former fails.

13,728. Have you any suggestion to make regarding the teaching of that loafer class?—I think the only way is to try persuasion as it were for a term of years, and then if you find that it does not do, you can make it compulsory that they must attend these classes. Many of those who attend continuation classes start classes of their own and get hold of a lower substratum, as it were, than we perhaps get into the gymnasium.

13,729. *By Mr Alston.*—In answer to the Chairman, you mentioned that it was you, I think, who grant the certificate?—The School Board gives the certificate.

13,730. Upon whose dictum?—Upon my dictum.

13,731. How many special instructors are employed in the gymnasium?—There are three—myself and two assistants.

13,732. Who conducts the evening classes?—I do most of the teaching in the evening classes.

Rigid system inadvisable.

13,733. You use a modified system of the Swedish and military drill. Have you published any book on it?—No, we have just a pamphlet for our own use.

13,734. You find both of these systems to be a little trying for the pupils?—Yes. The Swedish system is overladen with words of command, and the exercises are too severe for the children, so that we have practically dropped it. We use just enough of the military drill to get the children to fall into their places smartly in order to do the physical exercises.

13,735. That brings us to the question which has been constantly before the Commission, whether one uniform system which was wide enough would not be an advantage so that the teachers might extract from it what they found to be most suitable. Would you advocate that?—I am rather opposed to any fixed system, as it gets a little bit hard at times.

13,736. But if it were wide?—It would all depend on the width.

13,737. It might be wide enough for all the schools in the country?—Yes.

13,738. That would have an advantage in many ways?—Yes, a teacher who was going from one school to another would always know the work.

Music.

13,739. You speak of the use of pianos in schools. Have you found musical drill to be a great advantage?—Yes.

13,740. The teachers give the children a thorough grounding before the musical accompaniment is given to the drill?—Yes

13,741. Do you find any objection to the use of music?—They are not allowed to take the drill with music until they can do the exercises perfectly without it. The music is a great improvement; it makes the children work brighter and more smartly.

13,742. But you do take careful note that they are doing the exercises properly even when the music is being played?—Yes.

13,743. You make a considerable demand upon the School Boards and the community for space and expenditure for the provision of physical training?—Yes.

Special accommodation.

13,744. Would it be possible to provide special rooms for physical training when you consider that the expenditure of School Boards upon special rooms for teaching is already very large?—I think it would be possible in this way: in Leeds we have a number of central halls which are very advantageous, and then we have a number of covered sheds in the playgrounds where the children go in wet weather. Now, my idea would be to utilise these sheds by putting a wooden floor on them which would not cost a great deal.

13,745. Would you not prefer a shed with a roof, but open at the sides?—No, it is too draughty, and is particularly risky for the girls. In November, I have found the children shivering away, and then, of course, I have ordered them in.

13,746. You would not have compulsion till the very last moment?—That is so.

13,747. And then it would be for boys over fourteen?—Yes.

Slum class.

13,748. *By Mr Shaw Stewart.*—In reply to Sir Thomas Glen Coats, you made a very interesting statement, that in connection with the continuation classes the boys themselves started classes of their own and reached those that did not come to your classes. Is that done on any large scale?—Yes, in one of my classes at Cross Stamford Street I had about twenty, and nearly every one of these began teaching classes of their own in the slums of Leeds.

13,749. In what rooms did they teach their classes?—Church rooms, Sunday Schools, and that sort of thing—mostly Chapel Sunday Schools.

13,750. So the ordinary work of continuation schools acts in two ways?—Yes, it has done that with us. Of course, there is a society, the National Physical Recreation Society, which exists to form classes like that. That society provides teachers for these slum classes, as it were.

13,751. But I understood from you that this was done in Leeds on the initiative of the youths themselves?—Quite so. Some of them may be eighteen or nineteen when they come to us, and they stay on till they are perhaps twenty or twenty-two.

System of teaching swimming.

13,752. We had some evidence with regard to the teaching of swimming from Mr Alexander, the well-known expert in physical training, and he drew our attention to the way in which you taught swimming at Leeds. He said that the teacher 'teaches the boys and 'girls the swimming drill on land, so that when they 'go into the water to swim, they won't receive the 'instructions of their teacher while they are half choked 'with water; they know what they have to do when 'they do get into the water, and go straight at it instead 'of shivering and waiting for instructions.' Do you find that system to be very valuable in saving time in imparting instruction?—Yes, especially in the life-saving. It is just simple movements to show them how to move their arms and limbs. If you give them that instruction while they are in water, then they shiver away, so we therefore give it on land.

Continuation classes.

13,753. *By Mr M'Crae.*—You are fully impressed with the advantage to the pupils of continuation classes. How long have those classes been carried on in Leeds?—About eleven years.

13,754. Is that since the classes were started for mental work?—Yes.

13,755. Did these classes follow the classes for mental work?—Yes, the evening classes were started two or three years before that. When I came to Leeds I introduced these physical classes.

13,756. Will there be continuation classes for every Board School in Leeds?—No, they are grouped.

13,757. In certain centres?—Yes.

13,758. You say that you have one in Cross Stamford Street in a very poor part of the City. You charge a small fee for that also?—Yes, about 1s.

13,759. That is for the whole session?—Yes.

13,760. Do you remit that if they take other classes?—No, that is the reduced fee.

13,761. What if they don't take other classes?—As a matter of fact, they do.

13,762. There are very few who go in for physical instruction alone?—Very few.

13,763. You say you are against compulsory physical training for lads between fourteen and eighteen, and you advocate the trial of a voluntary system for three years?—Yes.

13,764. Your classes have been going on for a much larger number of years than that. What difference would you suggest in your method?—We attract rather a different class of people than you want to touch. Those we have are young fellows in constant work, and I take it that the ones you want to get hold of are those who are not in constant work, particularly the loafing kind.

13,765. How would you get hold of them by voluntary effort?—By advertising it widely and offering rewards for regular attendance. I think that if it was started it would spread.

13,766. Would you go the length of saying that to make it attractive it should be altogether free?—Yes, I think so.

13,767. There should be no charge at all?—No.

13,768. How long have you been chief instructor—Twelve years.

13,769. How long have you been examiner?—Twelve years. *Mr. R. E. Thomas.* 2 Oct. '02.

13,770. Were you trained in any particular system of physical gymnastics before that?—I was trained at the Liverpool Gymnasium, but we had no set system; we took the best out of each.

13,771. Have you ever considered the possibility of the Corporations of the large towns providing gymnasia for the use of the lads of the city?—Yes, I have approached the Leeds Corporation indirectly about that, but the extent they have gone to is to provide a few open-air gymnasia without instructors. These are worse than useless, as the floor is simply hard concrete or ashes, and children are apt to come down when swinging and break their limbs. They would be better without those. Proper supervision must be given if these gymnasia are to be of any good. The Corporation have altered one small swimming-bath into a gymnasium. Public gymnasia under local authority.

13,772. Supposing such gymnasia were established, would you suggest that they should be under the control of the municipality or the control of the education authorities?—I am afraid it would have to be the municipality. The education authorities would have no *locus standi*, as they would not be schools in any way.

13,773. If it were a good thing that the education authorities should have control, of course it would follow that they would establish the gymnasia?—Would they establish them as a sort of continuation class?

13,774. I was putting to you which body you thought would have the best control over the boys. That might be an element in deciding who were to provide the gymnasia?—I think the local authority would be the best.

13,775. Better than the educational authority?—Yes, they are more on the spot.

The witness withdrew.

Mr Robert Wilson Bruce, L.F.P.S.G., examined. *Mr. R. W. Bruce, L.F.P.S.G.*

13,776. *By Professor Ogston.*—Will you kindly state your qualifications?—I am a Licentiate of the Faculty of Physicians and Surgeons in Glasgow, and Medical Officer to the Glasgow School Board and Eastpark Home for Infirm Children, Glasgow.

13,777. We shall be obliged by your reading over your statement of evidence?—

The tenements in the district to which my statement specially refers, and in which the greater number of the children attending Dobbie's Loan School reside, were all erected previous to the formation of a sanitary authority. They were not originally provided with sanitary conveniences, but, in accordance with the requirements of the Health Department, water-closets have been provided for the tenants on each floor, and there is a water supply in most kitchens. There is little back-court accommodation, and many of the stairs are dark and ill-ventilated. The houses are chiefly those of one and two apartments, the larger houses having been subdivided. The occupants of these tenements are generally unfamiliar with the rudimentary laws of health, or they do not act in accordance with their knowledge. An open window, in the full sense of that phrase, is a luxury they seldom experience, their ill-ventilated rooms get close and offensive, and the children reared under these conditions must necessarily suffer in health and be unfit for severe physical exertion or endurance.

I do not mean that there are no healthy houses in the district, or that the bulk of the children suffer from impure air. My visits are mostly made to the homes of School Board defaulters, and to those who have sick and infirm children of school age. What I see convinces me that unthrift is very general, that dirty, disorderly, and ill-ventilated rooms are common, and that though the children get enough to eat it is not of the proper quality, and does not yield sufficient nutriment for healthy growth.

As illustrative cases, I submit some visited recently in the ordinary course of my work—

(*a*) Maitland Lane, two apartments in close. Kitchen, two beds, fairly clean. Room said to be damp, contains frame of an old bedstead and some other articles of broken furniture. The floor is littered with small coal. Household consists of husband, who won't work; wife (with a black eye) nursing a baby; girl, fourteen years, who cleans stairs; boy, eleven years (school defaulter), sells newspapers; two younger children, at present in hospital with scarlet fever; and a sickly baby in cradle at bedside—seven inmates in all. The wage-earners are the boy and girl. Food—breakfast: tea, bread, and jelly; dinner: 'any scraps girl picks up after telling her story' or gets from people whose stairs she cleans; supper (if any): tea, bread and jelly. Illustrations.

(*b*) Milton Street, two apartments. Kitchen looks to back court, room looks to lane, both dark. Household consists of husband, wages 35s. per week; wife, domestic; boy, seventeen years, 6s. per week; girl, fifteen years, 2s. per week; and four younger children. Food—breakfast: porridge and milk; dinner: bread and milk; supper: broth, beef, and potatoes. (Intemperance.)

(*c*) Soho Street, East End, two apartments, rent 11s. per month; furniture, two small tables and stool, mattress in kitchen with bedcover, mattress in corner of room. This is all the furniture. Household—husband and wife and five children. Eldest boy, twelve years, at school; another boy, ten years, in bed, dirty and naked, with counterpane for only covering, said to take fits. Food—breakfast: porridge and milk; dinner: tea and bread; supper: potatoes, and sometimes with meat. Earnings, 23s. weekly.

(*d*) Marshall Street, city. 'Farmed-out house, one room in close, looks into court, very dark, rent 5s. per week. Furniture provided, which consists of table, with school form, an ordinary kitchen table, two chairs, two plates, two jelly mugs, two bowls, two tin dish covers, and some broken hyacinth bottles, two pots and one frying-pan, wool mattress, one sheet, two pillows,

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one thin bedcover (no blankets). Household—Husband and wife, two children; boy, ten, at school; boy, seven, deformed (rickets); wages, 28s. per week. (Intemperance. Food—(breakfast: porridge and milk; dinner: potatoes and stew; supper: tea, bread and cheese.

These cases are cited to show the squalour and discomfort of the homes, the intemperance and improvidence of the parents, and the consequent hardship experienced by the children. In houses of a different type, which are clean and tidy, and show no signs of straitened circumstances, the air space is often unduly encroached upon by needless furniture. The concealed parlour bed is used as the family wardrobe, and the kitchen shelves are crowded with crockery ware for mere show. Windows are closed to keep out the dust and the blinds drawn to save the carpet from the sun. Recently, in a house showing signs of poverty, I was surprised by the well-stocked dish shelves, but the surprise took another form when I learned that the dishes were all broken, and only kept to give the house a 'bein' look.'

Food.

Food.—The dietary in three of the stated cases is very satisfactory, but I am all but certain that tea was more frequently used than my informants cared to admit. A meal which is easily cooked, though it is of low food value, is preferred to one of richer nourishment, which takes time to prepare or trouble to cook. It is largely from that cause that porridge, broth, and potatoes have disappeared from the meals of the poor. Bread, cheese, ham, jelly, and butter, with tea, are the articles out of which most meals are now formed. My experience amongst industrial school children confirms me in this opinion, and the shopkeepers in the neighbourhood of Dobbie's Loan School, whom I consulted, had the same conviction. I tried to find the dietary of the girls and boys in the senior class of Dobbie's Loan School—there were over thirty in each class. Of the girls, fourteen had tea and bread for breakfast, the others in the class got porridge. For dinner, nine had tea and bread, the others had soup and potatoes, etc. For supper, all had tea. The boys, for breakfast five had tea and bread, the others had porridge. For dinner, four had tea and bread, the others had soup and potatoes. For supper, four had porridge, the others had tea and bread.

Clothing.

Clothing.—There can be no doubt that in cold weather the clothing of many boys is far from satisfactory. It is difficult to state precisely what should be worn in order to preserve health. The housing and also the feeding of the boy needs to be considered. A well-fed boy, who sleeps in a healthy atmosphere, can endure cold better than one who is badly housed and improperly nourished. It is generally held that woollen underclothing is a necessity of our climate, yet a large proportion of boys never wear flannel underclothing of any sort. They are clothed in accordance with the resources of the parents, there is no uniformity of material, style or colour. Were mothers able to patch, darn, and sew on buttons, and did so, much of the boys' hardship would be removed, and the indescribable and shivery garments so mysteriously but literally held together by 'buttons, thrums, and skewers' would become (if less picturesque) more comfortable and decent. Many boys attend school during the winter months with bare feet.

Health.

Health.—I was impressed while watching the younger children mustered in one of the school playgrounds by the number of pale-faced boys who were small in stature and had deformed limbs. Immediately afterwards, I was taken to one of the senior classes and asked the boys to stand up, but found very few who were undersized or unhealthy in appearance. A teacher said his boys would compare favourably with any of those in more salutary districts. I am not able to explain this disparity, and am wondering if it is only an illustration of the law of the 'survival of the 'fittest.'

During the first six months of this year over 350 visits were made by me to children of school age, who were asserted to be ill and unattended. Their ailments I tabulate:—

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Ailments of school children.

General (simple and not easily classed)	92
Rickets	42
Eye Disease	33
Skin Disease	30
Imbecile and Defective	28
Struma	26
Lung Disease	23
Spine Disease	21
Paralysis	16
Heart Disease	10
Mumps	7
Hip-joint Disease	6
Deaf and Dumb	6
Rheumatism	5
Fits	4
Ear Disease	3
Congenital Deformities	2

From this list it may be inferred that many of the ailments of the young are due to bad hygienic conditions, and that with better homes, good food, warm clothing, and proper exercise, much suffering would be prevented. The sickly and deformed would all but disappear, and a new race of healthy, romping, joyous children would take their place. A marked improvement has taken place in the health of the poorer children of Glasgow during the last twenty-five years. This is due greatly to the working of the City Improvement Act, which secured the removal of insanitary property and let sunshine and air into others, to the better constructed schoolrooms, where so much of the children's time is spent, and to philanthropic and other agencies, such as — East Park Home for Infirm Children, Poor Children's Dinner Table, Fresh-Air Fortnight, Charity Organisation Society, and Parochial Boarding-out, specially devoted to their benefit. The improvement has been marked by the decrease in rickets. Though this disease is still prevalent, the cases are not so numerous, nor is the type so severe as formerly. I am of opinion that country children are physically superior to urban children, but they are not mentally superior. I have visited schools all over the country, where our boarded-out children are placed, and the statement of the teachers generally was in favour of the city children.

Health of poorer children improved during last twenty-five years.

Country and urban children.

Mr James R. Motion, inspector of Glasgow Parish, states that the children boarded out have added considerably to the smartness of the country children, and have contributed greatly to the increase of the Education grants.

Drill.—I am strongly in favour of physical drill at school. It is one of the influences at work to raise the standard of the citizen. I have, during the history of the Glasgow Board, only met with one case of illness, said to be due, but falsely, to the school physical exercises. At Mossbank Industrial School, where there are about 400 boys having physical drill for one hour daily, I have never heard of illness as a result. The whole drill is not given at one time, but is distributed throughout the day. All the boys are well fed, well housed, and warmly clothed.

Physical d beneficial.

I am of opinion that ordinary school boys in districts like those under consideration should not have much drill at a time. I would prefer that they receive a little, and often. Prolonged drill would tire and unfit them for the other work of the school.

13,778. In all those drawbacks to health which you have mentioned, and which, I suppose, we might call the accessories of civilisation, you place bad ventilation and bad feeding in the fore-front as producing defective health and defective development?—That is my experience.

13,779. I suppose the cure for that is to be looked for in better information among the working classes regarding those subjects rather than in the introduction of any physical training?—I believe so.

Physical education *plus* physical training.

13,780. But you think that physical training would assist in diminishing those evils?—Yes, the children being, of course, taught the reason of the physical training.

13,781. And they in their turn becoming parents and wiser?—Yes.

13,782. Out of 350 ailments, you have 42 rickets, 21 spine disease, 16 paralysis, 6 hip joint, and 2 congenital deformities. Those are all bad cases that would be very striking in the children drawn up in a row?—Yes.

13,783. You have very famous surgeons in Glasgow, and a number of these cases would be treated in hospital and the deformities rectified?—Most of the children that are here don't go to the hospital.

13,784. So that would not explain the improvement in the senior class?—I don't think so.

13,785. As you say, the only reason for that improvement may be the law of the survival of the fittest?—Yes. I think the mortality among children in this particular district is pretty high.

13,786. You consider that country children are physically superior to urban children. You have had opportunities satisfactory to yourself for coming to that conclusion?—Yes. In connection with the Parish Council of Glasgow, of which I am a member, children are boarded out all over the country. I have visited those children, and it is quite apparent that they are smaller than the country children, but then they are brighter, more alert, and do their lessons better.

13,787. You don't think that physical perfection and mental acumen naturally go together or are inseparable?—I don't think they are inseparable.

13,788. Do you think that if the physique were improved you would have an improvement in the mind?—Yes, I think so.

13,789. *By Mr Shaw Stewart.*—I would like to ask you about the diet. Of course you would rather see more milk in the diet?—Yes, and more oatmeal.

13,790. Is the disuse of milk due partly to the easier way in which a meal is got from tea, or is it also due to the greater expense of milk?—It is due very often simply to carelessness on the part of the people, and to the fact that they prefer tea. Very young children are brought up on tea.

13,791. But do they prefer tea because it is more easily made and handier to get at, or do they use tea on account of the expense and difficulty in getting milk?—I could not quite say.

13,792. I suppose milk is sold in the district you refer to?—Yes, it can be quite easily got, but an infusion of tea goes a very much longer way; I have no doubt that the expense has something to do with it in many cases.

13,793. You said that in one house showing signs of poverty you were surprised by the well-stocked dish shelves that were kept for show. I suppose there is some value in that show of well-kept dishes. Does it not show that there is some little self-respect and a wish to keep the place tidy?—Yes. The house I was visiting was a clean house.

13,794. *By Sir Henry Craik.*—Your visits are mostly made to the homes of School Board defaulters?—Yes.

13,795. You don't pay any general visits to the schools under the Board?—Not unless I am sent for.

13,796. If you were to do that, then additional medical officers would be required?—Yes.

13,797. Do you think that such visitation would be useful and important?—I don't think so. They are well supervised by an inspector in connection with the Board.

13,798. Is that sanitary inspector sufficient without any medical inspection of the children?—Yes. The teacher when he notices anything sends for the medical officer.

13,799. That must be rare in ordinary schools?—Yes, it is rare.

13,800. There might be cases of defective eyesight, or other things of that sort which the teacher might overlook?—That is so.

13,801. You don't think that is sufficient to induce you to have a general medical inspection of the schools?—No.

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Diet.

13,802. *By Mr Alston.*—You said in one part of your evidence with regard to the diet that the children got enough to eat, but what they did get to eat was not of the proper quality. Is that the case with the children in such a district as Dobbie's Loan?—It very largely prevails.

13,803. They do get enough to eat?—They get what satisfies them—they get bread, jelly and tea.

13,804. What they get to eat is not proper for growing children?—That is so.

13,805. You took a census of thirty boys and thirty girls and put down the number who take tea and bread and the number who take proper food. It appears, if you add these up, that there is a very considerable proportion of good diet in both classes, but especially among the boys?—That is so.

13,806. Adding up the figures for the 30 boys, I find that at 55 meals they got good food and at 35 meals they got tea and bread; whereas with the girls, at 53 meals they got indifferent food as against 37 meals of good food. Is it the case that the girls take tea and bread and the boys crave for something better and get it?—That is often the case.

Industrial schools: good health due to good food and proper clothing.

13,807. From your visits to the industrial schools, you know the condition of the children before they are sent there and the condition in which they appear when they have been there for some months. Do you attribute the chubby faces and appearance of health to the good and regular food that they get in these schools?—Yes, and the good clothing.

13,808. It comes to this, that if in all the Board Schools where the poorer classes of children attend, you had good food and suitable clothing, then you would make a new race of them?—Yes.

Physical education.

13,809. *By Mr M'Crae.*—You say there has been a marked improvement in the health of the poor children during the last twenty-five years, and you attribute that to the improvement schemes of the Corporation. Do you find that those people generally appreciate the better homes that are now provided for them?—I am sorry to say that I do not.

13,810. In the matter of cleanliness, you think that there is still great room for improvement?—Yes.

13,811. Is there anything that you yourself, with your large experience among these poor people, could suggest to bring about a better state of matters?—You can only do it by teaching the children.

13,812. You mean starting with them and instilling into their minds the necessity for better health conditions?—Yes, I think it is impossible to deal with the adults.

13,813. You say that it is generally held that woollen underclothing is a necessity in our climate. Is that your own opinion?—Yes.

13,814. I don't want to draw you into the controversy as to whether woollen or linen clothing is the better, but you think that woollen underclothing is a necessity for this climate?—Yes.

General medical inspection desirable.

13,815. *By Professor Ogston.*—Has every School Board in Scotland got a medical officer?—I don't think so.

13,816. Would you approve of every School Board having its medical officer?—Yes.

13,817. He could maintain a supervision over the health of the children, which would not necessarily imply an extremely elaborate examination, and that would be beneficial?—That is so.

13,818. When you said that medical inspection was not desirable, you referred more to the registration of every little ailment?—Yes, I thought the gentleman who was asking me the question referred to the individual schools.

13,819. You would approve of general medical inspection?—Yes.

13,820. If physical training were made compulsory in the Board Schools, you would think that such a general medical inspection would be more desirable?—Yes.

The witness withdrew.

Professor Sir WILLIAM TURNER, K.C.B., M.B., LL.D., examined.

Prof. Sir Wm. Turner, K.C.B., M.B., LL.D.

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13,821. *By Professor Ogston.*—You are Professor of Anatomy in the University of Edinburgh and President of the General Medical Council of the United Kingdom?—Yes.

13,822. We have had in the course of the evidence submitted to this Commission, a great number of statements made by those who are by no means skilled in scientific matters, and it is therefore very desirable that we should have the pronouncement of an authority on a number of those. I would therefore put a few general questions to you which your high position would enable you to answer. Does your science enable you to tell the Commission whether physique and intellect go together?—That is rather a wide question to put to me, but I have no hesitation in saying that physical exercise is of the highest importance in connection with the development of the body generally. The brain, for example, is something more than a centre of intelligence. It is the great centre of movement of the body, and regulates these movements; it is also the great centre of sensation, and the fact that it is a centre of movement and a centre of sensation will show that there must therefore be an intimate relation between the motor and sensory systems of the body and the brain. We cannot look upon the brain solely as a centre of intelligence.

Importance of physical exercise.

13,823. Are you able to tell us whether the biggest races are intellectually the highest?—What exactly do you mean? Do you mean the tallest races?

Intellect and body: tallest races not the highest intellectually.

13,824. Yes. In the history of the world have they been intellectually the highest?—I am not prepared to say that. The race that is by repute the tallest race as regards the average height of its men, namely, the Patagonians in South America, have no reputation for special intelligence, and I am not prepared to say that even among Europeans the tallest races of men are more intelligent than the shorter races. Take, for example, those parts of Great Britain where you get the tallest men, namely the Border counties and the eastern part of Yorkshire,—I am not prepared to say that they are superior in intelligence to men in other parts of the country where the average stature is not so great.

13,825. I suppose it would also follow that it is by no means true that the biggest individual is the most intellectual?—Certainly not.

Physique and mental development.

13,826. Could you tell us whether the races that have had the best physique, apart from height, have been the highest in the scale of civilisation in the world?—We have a very remarkable example of the co-relationship between physical development and the very highest mental development among the ancient Greeks. That, I suppose, would be generally acknowledged. But I am not prepared to state that in all races of men these two characteristics are so precisely correlated as existed among the ancient Greeks.

Physical excellence and mental capacity.

13,827. Therefore, in considering the possibilities of our own race, and its prevailing in the struggle for existence, it by no means follow that physical excellence is to be placed extremely high?—Well, physical excellence in the struggle for existence must be associated with mental capacity. You must have the two associated together in order to obtain the highest place.

Effect of civilisation.

13,828. Many of our witnesses have told us that the general effect of civilisation has been to impair physical development?—I am not prepared to take up that position.

13,829. Would you say that if it were true that it was inherent to civilisation, it was due to its accessories, such as crowding, bad ventilation, feeding, and so on?—In all these matters we must take into consideration the conditions of life of the individual and of the people. We must take into consideration whether the people can breathe a pure atmosphere, whether they have proper food, whether they have opportunities of undertaking that amount of physical exercise which is necessary for the proper development of the body, and for keeping the body in a proper state of health. I consider that all these are essential if you wish to get the *mens sana* and *corpus sanum* properly conjoined with each other.

13,830. Would it be possible for you to say that you are satisfied that the conditions of life in cities have been proved to deteriorate the race?—I think there can be no question that when the conditions of life are unsatisfactory the race must deteriorate.

13,831. Do you regard this deterioration as temporary or permanent?—That is difficult to answer. If these conditions of life tended to the propagation of tuberculous affections and of such affections as deteriorate the proper performance by the body of its functions, then there must be an effect which is not limited to one generation, but which would affect subsequent generations.

13,832. In considering the question of education, and especially the two forms of it—mental training and physical training—do you consider that this Commission would be justified in giving physical training a subordinate place to mental training, because physical training aims at maintaining and perfecting bodily qualities that already exist in considerable perfection, while mental training aims at conveying what does not exist or which is merely rudimentary?—I should hold physical training to be an essential part of education, but at the same time it must not take so large a place in any system of education as to dominate the mental training. I think that for the proper preservation of the body in a state of health, so that the best use may be made of the mind and for the training of the mind, there should be a certain part of time set aside for physical training. I would not venture to give a definite opinion as to what amount of time should be set apart, because that is rather a matter for those who are engaged in school education to express an opinion on, but, at the same time, I should hold that a part of each day should be set aside for body training in addition to what is occupied with the mental training.

13,833. I suppose if we had to deal with children living in a state of nature, such as Arabs, Basutos, etc., physical training would be quite superfluous?—In connection with that matter, I don't see how this Commission can leave out of consideration the conditions of life under which our children are living. It must be obvious that a child living in the country is very differently situated from a child living in the town, and even children living in town are differently situated. Take boys educated at the Edinburgh Academy, where there are abundant means of recreation in their play-fields, and boys educated in a Board School in the Cowgate, where the provision for exercise is limited to a mere yard round the school, my feeling is that in any resolution which this Commission may come to in connection with this matter, they cannot lay down a hard and fast rule; the rules must have a certain elasticity, so that they may be adapted to the various conditions of life of school children, not merely as regards their residence in town or country, but adapted to the varying circumstances of parents, to parents who are comfortable in their circumstances and who can provide their children with proper food, and to those, on the other hand, who are poor and who cannot provide their children with the due amount of proper food. I feel that all these things would require to be taken into consideration in the formulation of any administrative system, and therefore you cannot lay down a hard and fast rule which is to regulate everybody's children. I think that that meets your point, sir.

13,834. Yes, entirely. Do you think we would be right in considering as the chief aim of a physical training that it should correct the defects entailed by civilisation?—If the so-called civilisation signifies living in insanitary houses, inability to receive or obtain exercise under healthy conditions, I think it would be a very wise piece of statesmanship if something could be done to remedy such conditions and to give the children a purer and happier life.

13,835. Do you consider that if physical training were pushed to such an extent as to produce athletes and acrobats it would be conducive to the health of the community?—No. It is not our business to produce athletes and acrobats. That is a personal matter; it is not a State question.

13,836. One of the aims of physical training should be to produce certain limited results in the way of evolving healthy individuals, doing away with the evils that are entailed by their environment?—Yes, I should hold that.

13,837. Regarding physical training as a matter with which science may deal, does it increase the muscular development?—I have no doubt it does.

13,838. Does it strengthen other parts besides the muscles; does it strengthen the ligaments and harden the bones?—The muscles act on the bones in such a way that undoubtedly they strengthen the bones. If you compare the skeleton of a highly-muscular individual with the skeleton of a person who has not got a corresponding muscular development, the bones at once show which is the skeleton that has belonged to the muscular person and which is the skeleton of the feebly-muscular person. For example, we can at once distinguish the skeleton of a man from the skeleton of a woman, because a man, as a rule, exercises his muscles much more than the woman does, and we can tell which are the man's bones by their character.

13,839. Do you consider that it has a similar beneficial effect on digestion, respiration, and circulation?—Yes, certainly.

13,840. Those improvements would be of slow course?—I don't know. I must ask what you mean by slow. How long a period of time do you mean?

13,841. Requiring months and years to produce, not days or weeks?—It would require some months.

13,842. Would the improvement be permanent?—I am not prepared to say how far it would be permanent.

13,843. A statement was made to us that physical training would prevent left-handedness. Do you think that is possible?—I should not be prepared to accede to that proposition.

13,844. Or left-eyedness?—No.

13,845. A sudden alteration of shape, length, and bulk is not to be expected from physical training?—That would depend very much upon the particular form of physical training. That expression, 'physical training,' covers a great deal, and it covers variations in the methods. For example, I would take physical training to cover such things as the ordinary games of the schoolboy (I need not particularise them), gymnastic exercises carried on with a proper teacher in a systematic way, drill of various kinds, and then there is that very special form of physical training which Mr Sandow has introduced and made so much of. That system of his seems to me to be one that has for its special object the development of the muscles, and by this muscular development the enabling of a person so trained to exercise very remarkable feats of strength. In fact, I think he calls it 'strength culture,' as far as I remember. There can be no question at all from what I have seen myself that by his method you do get most remarkable muscular development. He has it in himself and in his pupils. I have had some of his pupils attending my class in Edinburgh, and I have examined them and heard what they have to say as to the methods of training they have gone through. There can be no question in my mind that Sandow's system does exercise a very remarkable influence on muscular development. How long that would last, unless the method of training is kept up, I don't know. I don't think that we have yet had sufficient experience to say definitely how long it might last.

13,846. Many of the enthusiasts in physical training who have appeared before us have detailed changes produced by it which seem almost miraculous, whereas to me as a member of this Commission it seems that possibly the improvement there might be explained by the mere improved carriage the of individual, that instead of the slouching figure and contracted chest, the improvement in height, in chest girth, and so forth that have been recorded might be due to the improved carriage. Could you help us in regard to that?—I can only speak from personal acquaintance with what I have seen regarding Sandow's system. There can be no question at all that there is, by the use of that system, an extraordinary muscular development.

Possible effects of Sandow's system.

13,847. So you think that his claim that in thirteen lessons children of ten years old increase three inches in chest girth is a possibility?—Yes, I think it is. Of course I have no experience, and I merely give you a general impression.

13,848. It would not be produced by the more upright attitude of the spine and the further projection of the ribs caused by the improved carriage?—I am not prepared to say but that may be a factor, but I cannot but think that it is to a large extent due to the actual growth of the muscles.

13,849. And consequent alterations in the bones?—Yes.

Lung expansion.

13,850. Do you think that the actual structure of the lungs could be enlarged by physical training?—We know this, that the lungs fill the chest, and if the chest walls expand, the lungs would expand also. I should be quite prepared to think that if you get a chest expansion you will get an equivalent in lung expansion, because the lungs rise and fall with the rise and fall of the walls of the chest during the breathing process; the one must follow the other.

13,851. This would be due to no more than the development of the latent elasticity of the lungs?—I think it would be only that.

Improvement of discipline and personal appearance.

13,852. I should like now to put a few general questions. I suppose that the conclusions that have been forced upon us by many, that physical training will improve discipline and personal appearance, are reasonable?—Yes.

System: normal development.

13,853. If the Commission see its way to adopt a system of physical training, would it be right that they should keep in view that it should be limited to favouring development within normal limits?—Yes.

Age and sex considered.

13,854. And it should be suited to age and sex?—Yes.

13,855. But that training in the technical sense of the word, such as is employed for boat races, would not be a part of it?—No, that is quite special. If a person is going in for excellence in special athletic pursuits, he must be specially trained. I should not hold that it is any part at all of an ordinary school system to have special training for athletic pursuits. I would venture to say that what the school has to do is to see that the body is a vigorous body, and that through the vigour of the body the mind may also have its vigour improved, but I should not be disposed to go beyond that in the way of advocating any special athletic training in a general school system.

13,856. I may seem to be asking you a number of elementary questions, but I wish to have your opinion upon them on record. Do you think that physical training is likely to injure individuals?—Not if it is judiciously practised.

13,857. Are there any special precautions required in the case of girls at adolescence?—You mean at the time of puberty?

Qualified instructors necessary.

13,858. Yes?—Both girls and boys at the time of puberty would have to be trained by persons who had some knowledge of what the changes are that take place in the body at that time. They would require to have some general physiological knowledge, so that they might appreciate the special conditions incident to that period of life.

13,859. Special precautions in regard to underfed children ought to be a part of it?—Certainly.

13,860. Judging from the experience of your university students, do you think that physical training would be beneficial to the highest intellects amongst them?—Perhaps you will allow me to indicate what facilities are afforded in the University of Edinburgh in connection with physical training and exercise. To begin with, we have had in the university since 1859 a most efficient volunteer company, No. 4 Company, and we are very proud of it. That year, 1859, was the

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starting-point of the volunteer system. I have a certain personal interest in it, because I was an officer in it for thirty years. It is one of the most vigorous and prosperous companies in the Queen's Edinburgh Rifle Brigade. The average number of students, who are drawn from all the faculties, is from 150 to 170. Then we have also a battery of volunteers belonging to the City Artillery, composed also of students drawn from all the faculties. Besides that, we have a special medical company belonging to the Royal Army Medical Corps, which always musters 100 men, and, in fact, we could take more if a larger number were allowed by the regulations. Those are methods of systematic training applicable to a very important purpose, namely, the cultivation of our youth in habits of drill and discipline. But then, in addition, we have a very thriving athletic club, which has a large field, the purchase price of which was obtained partly by public subscription and partly by a large subscription from the University funds. All forms of athletics are practised by the members of that club. It has been pointed out to me that in Edinburgh you cannot judge of the number of students who take an active part in athletic sports solely by the numbers belonging to one or other of these different organisations which I have named, because there are so many students who have been educated in the Edinburgh public schools who retain their connection with their school clubs and don't necessarily join the athletic club of the University. Those, therefore, would have to be added in order to reach the total number of our students taking an active part in the athletic exercises. Well, now, as regards the relation which these athletic exercises may have to intellectual pursuits—you have men some of whom illustrate the association of great intellectual vigour with physical vigour, and, on the other hand, you have examples of men who give too much time to their physical exercises and don't give sufficient time or thought to mental work, so that you at once see that it is difficult to lay down any general proposition.

Intellectual ability and physical exercise.

13,861. You would not go so far as to say that in the case of a university student of the highest mental ability, physical education was a necessity?—No, I would not go so far as to say that, but I think it would be better for him if he did take a moderate amount of physical exercise. I think that thereby his mental powers would be more likely to endure longer.

System: forms of training.

13,862. In any compulsory system of physical training, would it suffice that such things as drill, gymnastics, games, running, and perhaps swimming, and the education of the special senses were included without the inclusion of such of the less practicable things as boxing, fencing, boating, riding, and rowing?—If you are to lay down general rules, of course, these rules would have to be applicable to such exercises as can generally be obtained, such exercises as the country generally could give opportunities for. Swimming, for example, is an art for which you don't find the means all over the country. The same with boating; riding to some extent is a question of purse and the means of the parent. Those that you have mentioned in the first instance I should say ought to be generally cultivated.

Military drill.

13,863. Is military drill in any way disadvantageous to growing lads?—I don't think that I could say that it was disadvantageous if it is not pressed too far. We must bear this in mind that the legal period of coming of age is not the physiological period of coming of age. A youth becomes of age legally when he is twenty-one, but he does not attain his full physical maturity at twenty-one. The skeleton is not complete in its ossification until the age of twenty-four or twenty-five. Therefore, in any proper system of drill for military purposes, it is clear that youths who have not yet attained their full physical development must not be too hardly pressed. The instructor should bear in mind that he is dealing with an organisation which is not complete.

13,864. The last question I have to put to you is regarding the girls. What is your opinion with regard to gymnastics for girls?—I have no experience in the matter, and I would rather not give an opinion.

13,865. Have you any advice to give us as regards games like football and cricket for girls?—No, I have no experience.

Prof. Sir Wm. Turner, K.C.B., M.B., LL.D.

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13,866. *By the Chairman.*—Can you tell us, roughly speaking, whether men or women live longer?—That is rather a matter for the Registrar-General; it is not a matter that I have considered.

13,867. You would not like to say?—No.

Muscular development

13,868. The reason I ask that question is that you have told us that a man was much more muscular than a woman. Is there any reason to believe that muscle prevails to the end, or does it waste?—I don't think the question of relative muscularity has very much bearing upon the question of the relative duration of the life of the two sexes.

13,869. If we try to make anyone muscular, we don't try, thereby, to prolong his or her life?—Not into advanced age.

13,870. Only during the best years of their life?—Yes, in what we may call the active period of life.

13,871. We had the advantage of noticing the boys in Sandow's class at the London Orphan Asylum. I don't think that Professor Ogston was there. We were very much struck by the abnormal development that had taken place in a comparatively short time among these boys. They were exceedingly fit and well in every way, but some of us thought that they were rather proud of their muscular development. Do you consider such pride to be a healthy or an unhealthy element in a boy of ten, twelve, thirteen, or fourteen?—I don't think it will do him any harm.

13,872. It is only to be expected in a place like that, where so much attention is given?—Yes.

13,873. It was rather a self-admiration society than a mutual admiration society, and it rather struck us?—I don't think it will do any harm.

13,874. If that is the sequence of Sandow's system, and if that system is to be more largely used, then it is to be expected that such a sequence will follow?—I think that young people are all apt to be conceited of their accomplishments, but they generally grow out of that.

13,875. Conceit of themselves is not a bad thing?—No.

Games and systematic training.

13,876. *By Sir Thomas Glen Coats.*—Would you consider it an advantage to children that we should try and develop the muscles to a large extent, or would it be better to give them such exercises as would give them freedom of movement and teach them to hold themselves erect?—My own feeling would be that games, where they are possible, should be encouraged because of that very freedom of movement to which you have just referred, but a system like Sandow's seems to me to be one which is capable of application in localities where you cannot get large playfields, and where children are unable to indulge in those movements which games ensure. It seems to me to be a system that is more applicable to a town life than a country life.

13,877. One of our medical witnesses advocated the carrying on of the exercises until there was a certain amount of tiredness in the pupil. He said you should not carry on the exercise in such a way that the pupil would not be any more tired after it was finished than he was when he began, and therefore he did not think very much of walking as an exercise, as you could walk a long distance and yet not call on any reserve force in the system. His idea was that you must call on this reserve force periodically in order to get the benefit of the training. What would you say with regard to that?—I don't think I have quite clearly grasped the point.

13,878. The point is this, that the duration of the physical exercise or the amount of exertion required should be carried to such an extent that the reserve force of the body should be called out. Would you go the length of tiring the pupils?—The sense of fatigue, if not too strong, is, I think, rather a pleasant sense up to a certain point, but then when people attempt more than their strength admits of, and get over-tired, I should not consider that to be a method of physical exercise which was a wise one.

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13,879. *By Professor Ogston.*—Perhaps I might put it this way; the witness that has been referred to advises that exercises to be beneficial should occasionally be violent?—I could not agree with that.

Violent exercises not necessary.

13,880. *By Mr M'Crae.*—Eliminate for the moment the secondary schools—do you think it would be possible to have a uniform system of physical training applicable to all the Board Schools in towns?—Yes, in towns.

Training in Board Schools: One system for town and another for country Schools.

13,881. And perhaps another system to suit the exigencies of the country?—Yes.

13,882. Can you give the Commission any guidance as to what should happen after the children leave school? Of course, they are at school till they are fourteen years old, and they will get physical training, we will suppose, with any system that might be suggested up to fourteen years of age. Can you give any guidance as to what ought to be done between the ages of fourteen and eighteen?—I think there is a great administrative difficulty in that, for this reason, that so long as you have a boy at school you have him under control, and when he leaves school and goes into some occupation in life he ceases to be under your control. I don't see, as I am at present informed, how you could retain a hold on them and continue any system of physical exercise.

Continuation of system after school age.

13,883. Do you think that a system similar to Sandow's should be combined in our public schools with a certain amount of military drill?—I understand that this question of military drill is one on which there is some feeling.

Elements of military drill should be learned by all.

13,884. I was asking principally from the medical point of view, and not with any ulterior military object?—Well, the elements of military drill should be learned, I think, by everyone; but when I say that, I don't refer, of course, to the evolutions of battalions or of brigades. The elements on which all drill is based seem to me to be of the highest value in a course of training, teaching children, for instance, how to march, how to carry their body erect, how to keep time, how to come to attention. I think all these things ought to be matters of general training, but I am not prepared, so far as school training of children goes, to go further than that.

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13,885. You would not go so far as to say that it would be a good thing merely from the point of view of physical development that there should be a cadet corps connected with all our Board Schools?—I must ask a little further explanation. What would you propose the cadet corp should do?

Cadet corps: must be voluntary.

13,886. Just go through the elements of military drill?—Such as I have referred to?

13,887. Yes?—Certainly, I see no reason why that should not be carried out.

13,888. Might it be an advantage in this way, that the boys might be retained in those corps even after they had left school?—Yes, subject to their own consent.

13,889. If there were continuation classes, and they attended these classes, they would have that association with the cadet corps even after they had left the day school?—Yes, if they wished it.

13,890. Would that be a good thing?—Yes, if they wished it.

13,891. It should be voluntary, however?—Yes.

Medical inspection advisable.

13,892. *By Professor Ogston.*—Are you willing to give an opinion as to whether, in the event of a larger system of compulsory physical exercise being introduced, there ought to be a certain reasonable amount of medical inspection connected with it?—I think that it would be found that cases would undoubtedly arise where it would be advisable to have a medical opinion on individuals.

The witness withdrew.

Adjourned.

TWENTY-EIGHTH DAY.

Friday, 3rd October 1902.

At the City Chambers, Glasgow.

PRESENT:

THE RIGHT HON. THE EARL OF MANSFIELD, *Chairman.*

Sir HENRY CRAIK, K.C.B.
Mr M. H. SHAW STEWART, M.P.
Mr J. C. ALSTON.
Mr J. B. FERGUSSON.
Mr GEORGE M'CRAE, M.P.

Mr R. B. PEARSON, *Secretary.*

Miss LILY MONTEAGLE, examined.

Miss Lily Monteagle.
3 Oct. '02.

13,893. *By the Chairman.*—You are at present engaged in teaching a class of feeble-minded children in Glasgow, and have prepared some evidence on that matter?—Yes.

Feeble-minded children.

I have been for the past ten years a teacher under the School Board of Glasgow. I am at present teaching a class of feeble-minded children in Oatlands Public School.

Nineteen months ago I was asked by the Board to take up the work of teaching these children, and on my agreeing to do so I was sent, along with another Glasgow teacher (Mrs Menzies), to London to become acquainted with the system of teaching the feeble-minded in the London Board Schools.

We remained in London for three months, under the direction of Mrs Burgwin, the Superintendent of Special Schools, and visited most of the centres where feeble-minded children are taught. We were present at a large number of the medical examinations which children have to undergo before being admitted to the Special Schools (as these centres are called in London). In this way we gained much experience as to the kinds of cases and varieties of types admitted to the Special Schools. We also attended some of the larger centres for several weeks at a time, in order to gain experience in the teaching of these special classes. On our return from London in April 1901, the Board appointed me to take charge of a new centre for feeble-minded children in Camlachie Public School, and at the same time Mrs Menzies was appointed to open a new centre

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at Finnieston Public School. I remained in Camlachie till August 1901. While teaching there I was assisted by Miss Renwick, and on my leaving Camlachie, to begin teaching in Oatlands Public School, where a class had been in operation for three years, Miss Renwick was appointed to take my place.

There are now four schools in Glasgow where feeble-minded children are taught. These are situated in some of the most densely-populated and poorest districts of the city—two in the east, one in the north, and one in the north-west. In each school there is at present only one class for the children, and one teacher for each class. The number on roll, including the four centres, is 92. Of these 59 are boys and 33 girls. I noticed that in the London Special Classes, as well as those here, about two-thirds of the total number were boys. All the children in these classes have been examined by Dr Carswell, of Glasgow, and certified by him 'mentally defective.' He has also classified them thus:—Class I. (hopeful), Class II. (less hopeful), Class III. (not hopeful). Some of the children are defective in speech; some are epileptics; some belong to the type known as Mongol (from its resemblance to the Mongolian race); some are Cretins (Cretinism being a state of defective mental development, associated with arrested growth); some are too weak physically to attend an ordinary class, and might be suffering from paralysis, heart disease, St Vitus dance, hysteria, etc.

lassification children.

In Oatlands—and I think this applies to the other Centres also—the children in Class I. have made marked progress during the last year. Those who could not read are learning to do so. They have also made good progress in arithmetic, writing, and manual occupations. I have hopes that a number of these will be able in another year to join one of the ordinary standards. These children, I may add, would have made little, if any, progress in an ordinary class. They would have fallen behind the other children, and after a time have lost heart. In all probability they would have remained in the same class for two or three years, and at the end of that time have been passed on to the next teacher as hopeless. As an example, I may mention one little boy who was sent to me from an infant department. He had been for over a year there, and did not then even know the letters. His teacher told me that he fell asleep every afternoon in school. He has been with me nearly a year now, and has learned in that time to read little words, add small numbers, and write fairly well. He has never fallen asleep in the school since he came to the class, and never seems to wish to do so. I hope to be able to send him to Standard II. in another year.

ducational rogress.

Those in Class II. will not likely ever be able to join an ordinary class, but they make progress, some in one branch and some in another. One child may learn to read well, another to write well, while another may excel in sewing, or some other manual occupation. To this class most of the Mongol type belong. They are often very bright, and learn quickly up to a certain stage, but they do not seem to be able to go further. Many of the children in Class II. might be able, with careful training, to earn their own living after leaving school—the boys as farm labourers, the girls at domestic work, such as washing, ironing, or baking.

Worst cases: moral but not ntellectual rogress.

The children in Class III. do not make much progress in school subjects; but I have noticed that morally they gain not a little by coming to these classes. The school discipline seems to help them to gain self-control, and they gradually become more orderly, more cleanly, and more obedient. I think it would be advisable that those in Class III. should have a fair trial in these classes, say for one year, and if at the end of that time they are found still only suitable for Class III., they should be removed to an institution, where they will be permanently cared for. They are not educable to any extent, and will derive little benefit from these classes. They will always be children, though adult in years, and, as children, they should have guidance and protection always. They will never be able to fight their own way in the world, and will always be in danger on that account. I believe that most epileptics should be placed in this class.

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The feeble-minded children are taught in classrooms belonging to the ordinary Board Schools. These classrooms are, in my opinion, well situated for classes of this kind, being on the ground floor, and having direct communication with the playground. They are also bright, cheerful, and airy, though Oatlands is rather limited as to floor space.

Teaching given in ordinary Board School classrooms.

In all the centres, we endeavour to give the children a little knowledge of the three R's. In Oatlands, the day's work is commenced with a short moral lesson, followed by some marching and physical exercises. These exercises exert a most salutary and energising influence over *all* feeble-minded children. They seem to enjoy their performance, and it is almost pathetic to note the willing efforts made by those suffering from paralysis, or nervous diseases, as they try to march, and perform their drill, like little soldiers. The remainder of the forenoon is devoted to the teaching of reading, writing, spelling and arithmetic. In the afternoons, singing and object lessons, as well as drawing, sewing, painting, clay-modelling, and other manual occupations are taught. In these children, the senses of seeing, hearing and feeling have to be aroused and developed. Hand and eye training must play an important part in their education. They must see and touch, before they can understand. Some simple Kindergarten occupations suit these children of eight or even twelve years of age, as they do normal children of four or five years. I have seen feeble-minded children, at nine years of age, who, on first coming to school, could only, with difficulty, string large coloured beads. Few can, at first, string two colours alternately. Their interest in hand occupations is, however, easily aroused and sustained; and it is through these occupations that much of their education should be imparted. It has been found beneficial, in London, and also here in Glasgow, to devote from five to six hours per week to manual occupations.

Course of instruction: physical exercises and manual occupations.

I do not think it either necessary or advisable to use corporal punishment in dealing with feeble-minded children. They are very often weak physically, as well as mentally. This absence of bodily and mental vigour is marked by extreme timidity. They can therefore be easily governed by gentle but firm treatment. Patience is also needed by the teacher, as good results are often very slow in making their appearance. She must also be sympathetic, in order to help these children and to gain their confidence. I have found it much better to deal in rewards than in punishments. The rewards may be simple, and may take the form of commendation from the teacher, marks, or the wearing of a medal for good conduct or punctuality.

I think that if there were not less than two teachers at each centre, and not more than from fifteen to twenty children in each class, it would ensure better grading of the classes, and quicker progress of the scholars.

I am also of opinion that in winter the children in these classes would be better to be kept at school all day, and supplied there with a suitable dinner. Many of the children who come long distances do not return to school in the afternoons if the weather is bad, and very many come late. Some also look badly nourished, and unfit for school duties. In London, through charities, in the poorer districts, where these classes are taught, the children are supplied with warm milk at eleven o'clock, and an hour later with a suitable dinner, during the winter months. School is made a very haven of refuge to these poor, delicate, feeble-minded little ones. I believe that dinners were regularly supplied to the Camlachie class during last winter with excellent results.

Food.

The number and kinds of cases I have already spoken of. I think, however, that in most of our Board Schools there must still be children who would greatly benefit by spending some time at these classes. There are many degrees of feeble-mindedness. Indeed, a hard and fast line between a feeble-minded and normal child cannot be drawn, and many a dull and stupid child in school is, in some measure, defective. The teachers of

Degrees of feeble-mindedness.

ordinary classes should be made to understand this. For example, any child who cannot do the ordinary work of a standard in a year's time is decidedly below the average in intellect, and instead of being kept two or three years in one class, and its life made a burden through terror and hatred of school, it would be much better placed in one of these classes, for a time at least.

Good effect of school education.

Education is as much a right of the educable feeble-minded as it is of any child; and if the normal child benefits thereby, in some degree also does the feeble-minded. It is in school that the feeble-minded child is first aroused, and there it seems to find a new interest in life. The normal child, by his will, his desire, and his originality, learns as much out of school as in school; not so the feeble-minded. When he comes to school, his will power is extremely weak, his desire for knowledge little, and his originality nil. Although he is fond of games, he cannot even play of his own accord; hence it will be seen how utterly helpless and dependent these children are, and how much they require that an effort be made in their behalf to make them happier and more useful members of society, and more fit to contribute towards the sources of national strength.

Physical exercises.

13,894. Of course drill is not given to your children in such a manner as to hurt them?—No, we just give them a little while at a time.

13,895. They suffer no pain through it?—No.

13,896. Is that physical training only given to them once a day?—Yes.

13,897. It is given altogether?—Yes, and occasionally if they are tired at the end of any lesson they take a short time of it.

13,898. It seems to refresh them and to do them good?—Yes.

13,899. Have you just mild exercise, enough to keep them moving?—Yes, and they generally sing with it.

13,900. Do you have any different exercise in winter from what you have in summer?—We have it outside in summer if the weather is warm enough.

13,901. You quite agree that education, both physical and mental, is the right of a feeble-minded child?—I think so.

13,902. You think that if the normal child benefits, so will the feeble-minded child to a certain degree?—Yes.

13,903. The normal child learns out of school, and the feeble-minded child does not?—That is so.

Food.

13,904. You also say that in winter you think that children of this class ought to be kept at school all day and there supplied with a special dinner?—Yes. They have to go further than the ordinary child, because there are so few centres for them, and they are generally delicate and feel the long walk a good deal.

13,905. In Oatlands Public School there is no dinner supplied, but there is, and has been for some time, a dinner supplied at Camlachie?—Yes, that was started last winter.

13,906. *By Mr Fergusson.*—Do these children you tell us of belong to the Glasgow School Board district?—Yes.

13,907. They all live at home?—Yes.

13,908. Have you any experience of any other institutions, such as the Larbert Institution?—I was down one day at Larbert visiting the Institution, but I did not see the school.

13,909. How do your children compare with those at Larbert?—I think they are much higher in intellect than the children at Larbert. I think most of those in Larbert are below Class 3. I think it would be even hurtful for those in Class 3 to go to Larbert unless they were kept separate. There are some very bad cases in Larbert, and then those children are so imitative, they imitate everything.

Contact of different classes.

13,910. Have you found in your experience that a child in Class 1, that is the hopeful class, gets any harm by coming in contact in school or otherwise with less hopeful children, say Class 3?—I don't think so, but perhaps if they were left alone they might. They are always being watched, however.

13,911. They don't mix much together?—Only in the playground. At dinner-time the most of them go home.

13,912. You think that so far as you can carry it out the physical exercise helps those poor children?—Yes.

13,913. You cannot look forward to doing very much for them; they are no use?—Not very much, especially those in Class 3. More can be done for Class 2, and *much* for Class 1.

13,914. What happens to them?—I expect a good many of them die young. They are pretty often delicate.

Special teaching by the eye.

13,915. As at Larbert, you devote special attention to teaching by the eye?—Yes.

13,916. You teach them by showing how the thing is done, especially in the most hopeful class, and everything is made bright to the eye?—Yes, to interest them. They cannot concentrate their attention unless they are interested in the subject.

Feeding.

13,917. You think it will be desirable to have some arrangements for feeding them at school; you would like that?—Yes, I think it would be a very good thing for them, especially in winter.

13,918. Some of them are hardly fit to go about by themselves?—Some cannot go home alone, and they have to be taken home by others.

13,919. Are they thoroughly well clothed?—Yes, all except one or two in the Oatlands centre, but in the poorest districts of the city there are some who are not properly clothed.

Free dinners.

13,920. *By Mr M'Crae.*—Have the School Board considered the question of supplying dinners to the children in winter?—I think that was done by outside charities in Camlachie.

13,921. What is the Board's view as to their supplying dinners to those children?—I do not know their view, but I think if the Board supplied it the children would bring a little money, although perhaps it might not be full value for the meal.

13,922. You yourself would suggest that a small charge should be made?—Yes, but not in the poorest districts.

13,923. Would you say that there they ought to be supplied free?—Yes.

13,924. *By Mr Shaw Stewart.*—How long have you been teaching a feeble-minded class?—A year past last April.

13,925. You have not had an opportunity of following up any individual pupils after they have left school?—No, not yet.

Feeble-mindedness determined by medical examination.

13,926. How do they draft the feeble-minded child into your class? I suppose the distinction sometimes is rather difficult to determine?—When the teacher of an ordinary class sees that there is very little progress with any child, the case is reported to the doctor, and he examines it. I think, however, that those who teach the children can tell best whether they are backward or not, and especially a teacher who has had experience with feeble-minded children. When informing a parent, however, that his child is feeble-minded, or even backward, the doctor's advice often carries more weight.

Numbers.

13,927. *By Mr Alston.*—Can you tell us the total number of feeble-minded children in the Board Schools of Glasgow?—Ninety-two.

13,928. But in all the Board Schools?—I could not tell that.

13,929. Ninety-two cannot cover the number?—No.

13,930. Have you ever heard stated the exact number of feeble-minded children?—Not in Glasgow, but in London they consider that there are 1 per cent. who should have special training.

13,931. In Manchester it is thought to be 2 per cent. Have you heard that?—No.

13,932. What is the total number in Oatlands?—Thirty.

13,933. How many are in the Oatlands Board School?—I think there are 1000 or 1100 children, but, of course, my children come from different schools: they don't all belong to Oatlands.

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13,934. Ninety-two are practically the collection of feeble-minded children, in the meantime, in the four schools?—Yes.

13,935. Has the proportion of boys to girls been a point that has attracted your attention?—Yes. In London we noticed that the proportion of boys was larger than of girls, and we find the same thing in Glasgow.

Special classes advisable.

13,936. Have you any views as to the advisability of a special class for those children, or do you know that medical opinion is divided on that point?—I have heard that it is.

13,937. What do you think yourself?—I think that classes ought to be provided for these children.

13,938. Special classes?—Yes, I do not think they can learn in the ordinary school at all.

13,939. It is a disadvantage for them to be associated with other children in school?—Yes, not only to the feeble-minded children but to the other children, as it keeps them behind.

Permanent institution suggested.

13,940. What is to be done with the feeble-minded after school age?—I think that the worst cases, those in Class 3, ought to be kept always under control and not allowed to mix with the community.

13,941. They should be kept in some home or institution?—Yes.

13,942. Or in some educational home? The education might continue, but manual instruction should be increased?—Yes, it should be the chief thing.

13,943. A considerable proportion are capable of earning their living?—Yes.

13,944. But the dangers are so great that they ought practically to be secluded?—Yes.

13,945. The use of the word 'she' as applied to the teacher shows that you think that the teacher should be a lady to take charge of those children?—Yes.

Special classes necessary.

13,946. *By Sir Henry Craik.*—You have been teaching for ten years under the Glasgow School Board?—Yes.

13,947. Then you have taught in schools not devoted to those feeble-minded children?—Yes.

13,948. Those children previously used to be taught with the other children?—Yes.

13,949. Or they were neglected altogether?—Yes, very often.

13,950. It had a very bad effect on the children?—Yes, I think it had a worse effect on the feeble-minded child, because it did not get taught at all.

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13,951. With epileptic cases did you not find a bad effect on the other children?—I never had one. I think they were kept at home altogether if they were bad.

13,952. Have you ever known instances in small schools in the country where there was injury to the other children?—Yes, there have been cases.

13,953. You think there is no other means of doing?—I think the epileptic cases should be always sent to special classes.

13,954. And the feeble-minded?—Yes.

13,955. And that not for their own sake only?—No, for the sake of others.

13,956. In country districts the only way to do it would be by institutions?—That is so.

13,957. You could not have special classes such as you have in Glasgow or Govan?—No.

13,958. Glasgow and Govan are the only two School Boards in Scotland that have tried it?—I think so.

13,959. Are the arrangements made for the children under the Code quite suitable?—Yes, I think they are.

13,960. They were introduced two or three years ago?—Yes.

Proportion of boys and girls.

13,961. *By the Chairman.*—You have said that about two-thirds of the total number are boys. Can you give any explanation as to why that should be?—I don't know, unless it is the fact that more boys are born into the world than girls. I cannot account for it in any other way.

13,962. You do not think that if a girl is not right it is not noticed so soon?—No, I don't think so.

13,963. It is the fact, so far as you know, in London and here that two-thirds of these children are boys?—Yes. In my own class I have only nine girls out of thirty.

13,964. *By Mr Alston.*—In the Rottenrow Day Industrial School there are seven boys and one girl feeble-minded?—Yes.

13,965. Your idea of the percentage of male births accounting for it would hardly bring out that proportion?—Would it not?

13,966. The fact is that the boys predominate among the feeble-minded?—Yes.

The witness withdrew.

Mr A. Mackeith.

Mr Alexander Mackeith, examined.

Mr A. Mackeith.

13,967. *By the Chairman.*—You have prepared evidence regarding crippled and otherwise physically infirm children in the City of Glasgow and their treatment in Board Schools, more particularly in what are called invalid children's schools?—Yes.

13,968. How shall we describe you?—I have been at work among the poor children in Glasgow in a voluntary way since 1856. I am just a business man giving my extra time to work of that kind.

Cripple and infirm children.

13,969. You have been interested all that length of time?—Yes, I have been interested in all kinds of neglected children, more particularly children who had been neglected at home, such as those who composed the foundry boys in the earlier days.

13,970. You have been in Glasgow all that period?—Yes, from 1856.

13,971. You have some notes before you which you will kindly read.—

League: objects.

The League is a branch of the ameliorative work carried on amongst the young by the Glasgow United Evangelistic Association, aided by the Sabbath School Union and the Foundry Boys Religious Society, and has for its object—(*a*) To find out all the cripple and otherwise physically infirm children in the city and suburbs, and to have them registered; (*b*) to put them individually in touch with sympathetic friends, who would, by correspondence, visitation and otherwise, become acquainted with their needs and capabilities, and would seek to awaken and foster in them a spirit of independence and self-help; (*c*) to co-operate with other organisations or movements when by such means additional benefit would accrue to the cripples.

I have handed in a table which shows the total number dealt with by us during the last two years, their ages, ailments, number attending ordinary day schools, and the school which has been started for their special benefit, and other particulars.

I take it that when I am asked 'to pay particular 'attention,' in my statement, 'to the subject of cripple 'children in the Board Schools, and to explain the 'system of treatment, the numbers and kind of cases, 'their progress, condition, and best methods of hand-'ling,' special reference to the school for invalid children, and not to the Board Schools in general, is what is meant.

13,972. What we wish you to give evidence on is rather broader than what you have stated.—Do you wish evidence on the question of physical training in connection with Board Schools.

Physical work in Board Schools.

13,973. As much evidence as possible?—I think that there might very helpfully be a large extension of physical work in connection with Board Schools. I think, for instance, that in the poorer districts of the city there should be in connection with each of the schools a swimming pond, and also a drill room or physical exercise room, where the children could have exercise in cold and wet weather. I think that would be a great advantage over merely having open-air exercise.

Cripple children.

13,974. What about the cripple children?—Cripple

children should be completely under medical treatment and advice.

13,975. There are a certain number of children who are not quite right in the Board Schools, and I should like you to refer to them?—There are a number of cripples who go to the ordinary day school. The number is given at 232 who are in attendance at the ordinary day school, and in the special school which has been started for cripple and infirm children there is an attendance of 34. A second school is being started this month in another district, and I have no doubt but that the movement will go over the whole of the other districts of Glasgow. The attendance of such children at the ordinary day school is, as would naturally be expected, somewhat irregular. They are weak, and sometimes unable to go to the school, and the School Board in that case do not demand the same attendance from them as they do from the ordinary scholars.

The educational movement in Glasgow on behalf of cripples is a joint one, and has had a year's trial, with such success that a second school is to be opened this winter. The School Board provides the teachers and furniture, the Glasgow United Evangelistic Association pays for the nurses and meets the cost of conveying the children to and from the schools in ambulance waggons (given by private donors), and Queen Margaret College Settlement Association, for the first school, gives the premises, supplies the food, and provides the lady assistants needed for the work. It is the opinion of many that the whole of this work should be undertaken by the School Board, as is now the case in London. In London they preceded us in this movement, for once going ahead of Scotland in education. It was begun in London, as it has been in Glasgow, by philanthropic organisations, but it has been so successful there that I understand the School Board have got powers to take the whole thing over—the ambulance waggons, nurses, and everything else. It is now entirely under the supervision of the School Board, and the expense has to be met by them. We think that it will ultimately come to be so in Glasgow as well.

The ordinary routine of the school may thus be described—

The ambulance waggon, with the nurse, starts at 8.15 a.m., and collects the children in two rounds. The school begins at 9.30, and the register is closed at 10 o'clock. The school is formed into five classes, and in future will be under two School Board female teachers (hitherto there has only been one), with several lady voluntary assistants. The teaching in the forenoon consists of reading, writing and arithmetic, with object lessons. At 10.30 there is a break of fifteen minutes to rest the children, and permit of their getting milk, biscuit, and cod-liver oil. Cod-liver oil and milk seem a strange mixture, but the medical lady looking after the work here is very strong on them getting the oil. They take it now quite as freely as the milk and biscuit. At twelve o'clock dinner is served (in a room adjoining the schoolroom) by the nurse, with the assistance of lady helpers. The dinner consists of meat, vegetables, bread and pudding—two courses daily, and varied—the aim being to give as nourishing a diet as the children can assimilate. At first some brought their own dinners, now almost all take the school dinner. The parents pay for the food, 7½d. per week per child, and 1d. per week for cod-liver oil. For nine months last year the total contributed by the parents was £26, 11s. 7½d. The nurse, who collects this money, reports that as a rule it is frankly given. After dinner the children are taken by the lady workers in good weather into the playground of the Board School adjoining, and in wet or cold weather into the play-room of the invalid school building, where there are swings, rocking-horses, mail-carts, and a go-cart or walking-horse, and where the children enjoy themselves till the school is resumed at 1.30. The building in which this school is held is a superior one put up by a family in Glasgow, who were particularly interested in girls, and it forms what is known as a girls' club, and has been given to the Queen Margaret College Settlement Association for their work, as they take an interest in girls as well. It is not every place that is so well adapted for the purpose of cripples as that one is. There is a splendid big room, and all the necessary arrangements for physical exercise. Regarding the physical exercises given these children, it may be well to state here that a doctor visits the school monthly, examines the children, and fixes the kind of exercises suitable—those, for instance, with spine disease and heart affection having these given them in a recumbent position on ilkley couches, etc. At 1.30 work begins again, and consists of drawing, brush work, clay modelling, basket weaving, and paper-mat weaving. These occupations are meant to train the children's fingers, and stimulate application, in view of their ultimately earning a livelihood for themselves. By these means it is found out what each child draws particularly to. Girls get sewing, and knitting is done both by boys and girls. The children are given frequent singing, reading, and repeating exercises for the benefit of their lungs as well as their memories. The nurse is present the entire day, giving the children the attention they need, and doing what bandaging is necessary. Mentally these children are on a par with other children, but not capable of anything like the same amount of work. It has been frequently stated that such children are mentally more acute than other children. That, however, has not been our experience. I had a talk with the teacher, and she said that they were not more acute, but they were on a par with other children. Nevertheless they have made what the teacher considers very good progress, and are anxious for their work and keen to learn any new thing.

Physical exercises controlled by medical examination.

The roll of the school is 34; average attendance 24, and average age nine. The ailments of the children are very much of the kinds and in the proportions given in the general table.

At the close of the school—3.30—the children return to their homes in the ambulance under the care of the nurse. Throughout the year these children, along with some 7000 to 8000 of the poor children of Glasgow, enjoy and are greatly benefited by a holiday at one or other of the fresh-air homes with which Glasgow is so richly provided. Those of them requiring special treatment get this change in convalescent and fresh-air homes, where nurses are in attendance.

13,976. *By Sir Henry Craik.*—What precisely is the constitution of what you call the invalid school? It is under the management of the School Board?—Yes.

Invalid schools under management of School Board: wider power necessary.

13,977. It is practically a Board School?—It is practically part of that particular Board School adjoining.

13,978. It is in receipt of an annual grant from the Department?—Yes.

13,979. It is inspected?—Yes, and the Inspector reported exceedingly well on it in his last report.

13,980. The School Board did get a special grant for those children?—Yes, I understand there is an allowance regarding this additional teacher that I have referred to That is something that has been given lately.

13,981. Beyond that you think that School Boards should be empowered to go further?—Yes, they should take over the whole matter. It is the duty of the School Board to see to the teaching of every child. Yet here is the fact that a number of children, because of their physical conditions, are not in a position to go to the ordinary day school, and if they are to get education, there must be special provision made for them. At present, the School Board of Glasgow, and I suppose the other Boards of Scotland, have not power to go the whole length.

13,982. You would like to see powers given to School Boards and an obligation laid upon them to provide for the bringing of the children to school and for their dieting them to a certain extent?—Yes, the dieting is necessary, but the parents pay for the food.

13,983. Have you made that representation to the

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School Board?—Yes. I think their feeling is that it is certain to come to that. I think they are quite willing to undertake the entire work, had they power.

13,984. You are aware that there is an English Act laying upon School Boards the duty of providing for the board and lodging of children of that class?—I did not know about the lodging.

13,985. On careful consideration, you desire that that power should be given to the School Boards of Scotland, and you think that they would be willing to accept it?—I would not say lodging. That would be taking the children away from their parents.

13,986. There must be many of these children who would thus be better attended to?—That is true. Have the School Boards in England power to take the children from the parents?

13,987. If the child cannot get the instruction otherwise, that obligation is laid upon them?—I would think that they would be better not to take the children from their parents.

13,988. In the case of deaf and dumb children, you know that the power is given to the School Boards?—Yes, and that is done here.

13,989. It is done throughout Scotland?—Yes.

13,990. You wish that extended with regard to weakly children?—Yes, but I don't quite see the need for lodging these children, except in very special cases. I think that parents would be rather sorry to part with their children. It would certainly be much better for the health of the child if it is from that point of view you are looking at it, because many of them are in homes where they are very poorly fed.

13,991. Of course, your attention deals only with one religious community?—No, it is irrespective of any religion, so far as dealing with the poor of Glasgow is concerned. We take any child.

13,992. Do you take any part in their education?—We assist the School Board in this work, but we don't do anything in the way of education.

Results of special education.

13,993. *By Mr Shaw Stewart.*—You have taken an interest in these children for many years, and I have no doubt you have followed them up after school age. Could you give us any idea of what sort of proportion can earn their own living?—Are you referring to cripples?

13,994. Yes?—The movement is not old enough for us to answer that question. What is being done just now is this, through the second point which I put as being one of the objects of our league, to put them individually in touch with sympathetic friends, who would, by correspondence, visitation and otherwise, become acquainted with their needs and capabilities, and to seek to waken and foster in them a spirit of independence and self-help. That is the point you are referring to just now?

13,995. Yes; I rather wanted to get from you any results?—As far as we have gone, the best results are with the girls, as would naturally be expected. They take wonderfully quickly to knitting and sewing, and some of the ladies have taught them exceedingly interesting work, such as 'Mount Mellick,' which they do, and for which they get a fairly good return. We want this work extended.

Fresh-air fortnight homes.

13,996. How long has the League been in existence?—Only four years, but we have been in touch with those cripple children for many years. For instance, for eighteen years we have been sending away on an average between seven and eight thousand of the poor children of Glasgow for a period of a fortnight to fresh-air homes. These numbers have included the poor cripple children, and it was in connection with this work that we came to know that so many of them were in existence. It was not previously thought that there were so many in Glasgow. This register is more a register of children of school age and under than of all the cripples of the city; that you can gather from the fact that over fourteen years there are only 190. We are giving all our energies in the meantime to dealing with children of school age and under, so that the question as to results has not had the same consideration as it will have in future.

13,997. I suppose some of these children have mental powers quite up to the average?—Yes. They are often spoken of as being ahead of ordinary children, because of their being confined to the house and brought more in contact with their seniors, but I do not think that as a rule that is so. I think they are equal.

13,998. Have any of these children educated through your means shown any good results in mental work?—Yes. Of course, there has only been one year of the school, so that we cannot speak to that.

13,999. You quite expect that all these children will develop quite an average power of mind?—Yes, I would say quite an average. Of course the weakness of these children is in a great many instances caused by parental neglect. In speaking about the number of rickety children that we have in Glasgow, some people have attributed that to our Loch Katrine water, as being soft and wanting in lime, but this has been controverted by the fact that the better class children don't show rickets at all. It is really a want of milk and porridge and the good old substantial food that used to be given in Scotland that accounts for it.

Numbe

14,000. *By Mr Alston.*—About this 804 which you give as on your register, do you think you have got the total number in Glasgow?—No. Since I printed this list I have received a further list of 60, and these are going to be visited.

14,001. Have you any idea what it might amount to, judging from your experience?—It won't be less than 1000. Then you see Glasgow is growing at a marvellous rate, and a very considerable proportion of those that are being added to Glasgow are the poor who are coming from the country.

14,002. Still the health of Glasgow is improving?—Yes.

14,003. You would expect that these would diminish rather than increase?—Yes, were the habits of the parents improving, but if the habits of the parents prevent the children from getting the food they should get, I am afraid that we will have an increase.

14,004. In the ordinary Board Schools, you have 232; there is a difference there of 572. These are not at school?—No, these are not at school. There are 570 of school age from five to fourteen, while 232 are at school. That leaves 338. Thirty-four of these are at the first invalid school that has been started, leaving 304 of school age that are not at any school, with the numbers we have at present.

14,005. They are not in school, and they are in such a condition that they cannot attend an ordinary school?—That is so, but the great bulk of them could attend the special invalid school if they were taken there and back in an ambulance waggon under the care of a nurse.

Special tion un Board.

14,006. You think that the time will come when the School Board will take this matter up and undertake the schooling of all these children?—Yes.

14,007. When that time comes you would advocate the teaching of the children at different centres?—Yes.

14,008. It would necessitate the gathering of the children from their homes and bringing them to these centres?—Yes.

14,009. The cripples of Glasgow could not be treated in the School Board schools?—No.

14,010. In this number of yours are you including the Eastpark children?—No, they are not in this total, because they are really under the care of Mr Mitchell.

14,011. That will be an addition to your numbers?—Yes.

14,012. Something like 120?—Yes. When we find them not in a condition to be sent to school, we tell Mr Mitchell of them.

14,013. You say that seven children are blind as well as being cripples. What do you do with them?—The blindness is caused very largely by paralysis. I expect we will put these in touch with the organisation for the blind. I have not looked up the particular schedules with regard to these.

14,014. You mean the Blind Asylum?—Yes.

14,015. The Commission, of course, are deeply interested in the question of physical training as applied to all children. You don't say much here about the results of physical training as applied to cripples?—It is a very delicate matter to attempt. Just think of some of them having spine disease and heart disease. The doctor comes round once a month and examines the whole of the children, and indicates what each child that is capable of physical training should have, and in what way it should have it, whether in a lying posture or not. Great care must be taken.

14,016. But they do get physical training?—Yes.

14,017. And do they benefit by it?—Yes, decidedly. They go outside on a warm day to the school playground, and on the colder or wet days they are taken into this warm school.

14,018. Do you know the nature of the exercises they get? Is it anything like Swedish drill, extension motions?—It is more individual than anything else, and under the care of the nurse and those ladies.

14,019. At the Queen Margaret Settlement the result is good?—Yes, it is very good indeed. Even although the matter should be taken over by the School Board, I think that there should be some means by which the philanthropic movements in the city should co-operate with the School Board. Coming to your question as to extension schools, which you are pretty anxiously regarding, I think what you are purposing doing in connection with these extension schools was really done in Glasgow as far back as 1865. There was started in that year what is known as the Glasgow Foundry Boys Religious Society. I was one of the four at the starting of it. That was before the days of the Board Schools. Boys were finding their way to foundries and other places at a much earlier age than they dare go now, and parents anxious to get money through their boys' work did not send them to school. A large number of them had no education, and were growing up wild, uneducated fellows. This Society was started to grapple with them, and it divided itself into four departments—religious, educational, social, and provident. Under the educational department gentlemen set apart three nights a week to teaching those boys reading, writing, and arithmetic, a fourth night being given usually to drill. The boys were provided with a simple uniform, consisting of tunic, cap and belt, which was the property of the Society. The boys paid for their own trousers, some 6s. or 8s. The boys went in for all this most enthusiastically, but, of course, there were alongside of them the gentlemen who took an interest in them, and who, perhaps, had some influence over them. Indeed, I am sure that they had, because many of the employers of labour had previous to that started night schools for those boys with a paid teacher, but these were not successful; the boys got wild and played mischief rather than paid attention to the teacher. With us they took an interest, and they came on three nights a week to their various rooms, where they were taught reading, writing, and arithmetic, on the Mondays, Tuesdays, and Wednesdays. On Thursdays they had drill, and on Saturdays, entertainments and Saturday excursions. We found the drill to be of wonderful value in giving them the habit of prompt and unquestioning obedience. I think it would be a most desirable thing if something of that kind could be done in continuation schools. That is what I am coming to.

14,020. This is quite apart from cripples?—Yes, I am speaking of lads in general.

14,021. Over fourteen?—Yes, it was then over twelve. I don't see why there should not be a combination with the School Board even yet. Take the Foundry Boys Society in Glasgow now. It is a very large Association, and there are similar bodies in the large places all over Scotland. I don't see why these should not combine to co-operate just as the Evangelistic Association is co-operating with the School Board in regard to the cripples. Why should not the churches take a much deeper interest in social work than they do now? Too many churches look askance on social work and rather frown on it, whereas if they co-operated in the improvement of the youths, their influence would be very great indeed.

Continuation classes: voluntary and popular.

14,022. *By Mr Fergusson.*—Just continue that line—you would favour in that case the development of continuation classes for lads over fourteen?—Yes.

14,023. Would you make physical training in its most popular form a part of them?—Yes, I would aim at making it very popular. I don't see why there should not be along with the drill, lime-light entertainments, and so on.

14,024. Would you favour compulsion?—No, I would not. I would aim at getting the boys as soon as possible to unite with the volunteer movement.

14,025. You would make it voluntary and as popular as possible?—Yes.

Medical inspection of all schools.

14,026. Coming back to the special point with regard to the cripple children, of course your dealing with these children must largely depend on medical advice?—Altogether I should say, and there should, therefore, be a medical man in touch with each school.

14,027. Would you say that for all schools?—I think so, especially if you are going to extend the physical training.

14,028. You would be in favour of medical inspection in all schools?—Yes.

14,029. With special reference to cripple children, you said that there cannot be very much physical training for these children, but what can be done under the doctor's advice is given, and the effects are good?—Yes. Of course they receive a great amount of benefit from being exercised for a while in the open air.

Cripple children in country districts.

14,030. What would you suggest could be done with cripple children in country districts where there may be only one or two, and there are not enough for a separate school?—That is where I think if the church was awake and alive to her work she would say, 'There is a child in that home who needs to have 'attention,' and some of the better class people might take an interest in that child and teach it.

14,031. Would you put the expense of that on the School Board?—Yes, whatever expense was incurred.

14,032. You think it is part of the proper work of education?—Yes. Some of the ladies from the Queen Margaret College Settlement go to the homes of the children that are not able to come even in the ambulance waggon, and give these children instruction in their homes.

Practical results of special treatment.

14,033. You want the School Board to take over this work, and therefore it is of very great importance that you should show the practical good that is done to these children. What can you tell us of the practical result on their lives as they grow up? How do they benefit?—First of all they were growing up before without any education. Now they are educated. There is point number one.

14,034. What use can they make of their education?—Some of them will follow handicrafts, such as wood-carving, and things that do not require much motion of the body. They will do that work all the better if they are fitted by training.

14,035. You think you are really able to put them in the way of doing some work that will support them?—Yes.

14,036. And that will free them from becoming chargeable on the rates?—Yes.

14,037. Your evidence is most pleasant reading, although on a very sad subject, and I hope you don't mind me asking you these questions. I am only wishing to get from you the practical benefits that would enable a School Board to say that they would take over the work?—Our aim is to help them in these ways to be in a position to earn a living for themselves.

14,038. And you think that that is really being accomplished?—Yes, I think that is one of the best ways of doing it, and I think it will do it.

Special school cost.

14,039. *By Mr M'Crae.*—With regard to the special school for invalid children, the School Board provide the teachers, the furniture, and the building; and the

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nurses, and the cost of conveying the children to and from the school are provided by private effort?—Yes.

14,040. Can you give the Commission any idea of the cost outside the provision made by the Board?—The food is very nearly paid for by the money given by the parents. Then there is the cost of the waggon. I am going out to the country to-day to inspect a second waggon that is being given to us. These waggons have been frankly given as gifts. We have two of them, and there are other two on offer so soon as we are ready to go to two other districts. They cost £100 each. The nurse costs about £70 a year, and the ambulancing of the children to and from the school costs a little more than that, perhaps £80.

14,041. Putting it generally, I suppose the expenditure would not be a large one, having regard to the amount expended on education generally?—No, it would be more than for ordinary school work, but that is to be expected.

14,042. You say that in the opinion of many the whole of this work ought to be undertaken by the School Board. That is also your own individual opinion?—Yes, and it is the opinion of many ladies and gentlemen whom I know.

14,043. Speaking of the larger class, the ordinary boy, is the physical training still continued by the Foundry Boys Association?—A good deal of it, but not exactly in the form in which it was originally carried out.

14,044. Have they a uniform yet?—No, they gave it up.

Military drill.

14,045. When did that cease?—When the movement grew, one of the results of this growth of military drill was that the boys demanded rifles. I think, Mr Alston, the same thing has happened in the history of the Boys' Brigade.

14,046. *By Mr Alston.*—No, the rifles are permissive?—But they were not at the beginning.

14,047. Yes, at the very beginning?—I did not know that.

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14,048. There are some places where they won't use them at all?—Well, we said, 'as a Religious Association it is not for us to put weapons in your hands 'to fight. The military drill and everything else are 'splendid for your development. When you are eighteen you can join the volunteers.' We pressed them to join the volunteers, and a large number did as they came to that age. We therefore did away with the uniform.

14,049. *By Mr M'Crae.*—Have you any drill now as an exercise?—Yes, some of the branches have drill.

Swimmi

14,050. Then you said you were greatly in favour of swimming baths and drill halls?—Yes, especially in the poorer schools.

Cadet co

14,051. Have you considered the advisability of having a cadet corps attached to each school?—No.

14,052. Do you think it would be a good thing?—I think it would be for the better-class schools.

14,053. But for the ordinary schools?—I do not think it would be so acceptable to parents in the ordinary Board Schools, as there would be some expense.

14,054. Apart from the question of expense, don't you think that the poorer the class of school the more benefit would be derived from the training?—If it was to be provided without additional expense to the parent. That is the only objection they would have.

14,055. I suppose you would approve of those drill halls and swimming baths being used by the children after they had left school in connection with continuation classes?—Yes, and the use of the playground. I think all the playgrounds should be much more utilised than they are. In a city like Glasgow we have too little playground space. With regard to the swimming baths—not merely from the standpoint of physical exercise (I think there is no finer physical exercise), but for the sake of ensuring the habit of cleanliness—I think they should be encouraged, because cleanliness is very largely awanting among our poorer people.

The witness withdrew.

Mr A. J. Pressland, M.A.

Mr A. J. Pressland, M.A., examined.

Mr A Pressl M.A

14,056. *By the Chairman.*—You are a master in the Edinburgh Academy?—Yes.

14,057. You have handed in a most interesting statement of evidence which we have all been reading.—I am afraid it was done in a hurry.

14,058. I am to ask Sir Henry Craik to put a few questions on it. We have been sitting for some time, as you know, and we have got our heads fairly full of the subject, but we wish to get your views on special subjects.—I quite understand.

Physical training in Switzerland: Canton of Zürich.

Physical training in Switzerland.—Since 1899 I have been engaged on a report to the Board of Education on 'The present state of education in 'Canton Zürich.' Part of this, and a translation of the Act of 11th June 1899, has been published in volume viii. of *Special Reports* to the Board of Education. The whole of the evidence has now been collected, and the full report will be issued within the twelve months.

Résumé of Act of 1899.

The Public School Act of 1899 fixes a term of eight years for compulsory education. This term begins on the first day of May following the child's sixth birthday. The hours allotted to each standard are—

Standard I. .	.	15 to 20 hours per week.
„ II. .	.	18 to 22 „ „
„ III. .	.	20 to 23 „ „
„ IV., V., VI.	.	24 to 30 „ „
„ VII., VIII.	.	27 to 33 „ „

All children attend the first six standards. Children who intend to enter the Higher Schools do not take Standard VII. and VIII, but pass on to the secondary schools, where their attendance is regulated in the same manner.

It should be noticed that the authorities strive to interpret the Act so that a child must have the education corresponding to eight standards when it leaves school. If, therefore, the child has remained two years in one standard, it must remain at school till the end of the fifteenth year.

The hours mentioned include the time given to gymnastics. The holidays amount to nine weeks per annum.

Time-tal for gymn tics and games.

The curriculum is drawn up by the council of education, who determine the subjects of instruction and the time allotted to each. The time-table is drawn up by the Communal School Board with the assistance of the teacher. It requires the approval of the District School Board. Apparatus and facilities must be provided by the Commune. The actual instruction in gymnastics must conform to federal decrees.

The Act gives power to the guardians (Vormundschaftsbehörde) to remove their children from the custody of drunkards and criminals. The usual procedure is for the teacher to represent that a child is being neglected or overworked by house duties. The guardians then institute an enquiry.

Medical examinations of children and inspection of school buildings are instituted by the cabinet. These have been for a long time systematically carried out in Zürich town by the Central School Board. The Council of Education issues byelaws as to buildings and inspection by the Board of Health. Permission to occupy new school-houses must be obtained from the latter.

Medical examinat

A detailed account of these provisions will be given in our Final Report. From the material in hand, I have drawn up the following statement. In September it was handed to the best authorities in Zürich for criticism, and their suggestions have been incorporated. The statement deals with facts and principles. The work entailed by my general commission has been

very heavy, and I have not been able to give the proper attention to all the particulars. My authorities are—

The secretary of the Federal War Department;
The secretary of the Swiss Public Health Society;
The Colonel Commanding the Federal Army Medical Department;
The secretary of Education in Zürich Canton;
The secretary to the Central School Board of Zürich Town.

Medical examination of children is prescribed on their first arrival at school. A child mentally deficient may be referred to a special class or a special institution. A child insufficiently developed may be sent to a Kindergarten or transferred to the list of the succeeding year.

The authorities have power to order the re-examination of any school at any time. The examination may apply to buildings as well as to pupils. It cannot be called a general practice, as the byelaw was only passed in 1900. The Central School Board of Zürich town has instituted re-examinations, as regards sight and hearing, for a number of years. Lately it has ordered an inspection of teeth at the age of twelve. The advocates of these examinations wish to ensure proper attention to eyesight and hearing at the age of six, to eyesight at the age of twelve, when the eye begins to grow fast; to the heart at the same age for the same reason, and to the teeth at twelve, since at this age decay makes rapid progress.

Statistics referring to these examinations will be found in the *Edinburgh Medical Journal* for July 1902. The recent report for 1901 of the Central School Board shows that at age twelve each pupil has on an average 3·7 decayed teeth. To overcome the difficulties with teeth the Board advises—

1. The issue of a pamphlet on the care of the teeth to every pupil entering the school. This pamphlet the pupil gives to his parents.
2. Constant reference to the necessity for care of the teeth by the teacher during class hours.
3. The grant of medical assistance to poor parents.

The cost of medical examinations is estimated at 2000 francs for the town.

Geographical.—The Canton contains about 675 square miles. The population is about 430,000. The town contains 150,000, and Winterthur about 22,000. The Canton is hilly but not mountainous. The agricultural population is mostly native. The town population is engaged in silk spinning and engineering. It is largely cosmopolitan and confessedly socialistic. A large number of the foreigners are Italian.

The physical education of all children begins at the age of six, on their entrance to school. For the first four years boys and girls are exercised together. At the age of ten the boys are subject to the provisions of the federal code, 'Turnschule.' This is an official text-book for all cantons. It was first issued in 1876. A new edition received the approval of the Bundesrat in May 1898. The nature of the alterations that have been made is thus described—

1. Less demand is made on the mental capacity of the pupil.

It was found that pupils came to their gymnastic work mentally tired. To counteract the effects of this, spontaneous movements are encouraged and the number of words of command decreased.

2. Increased opportunities for games are afforded, in particular for those in which running and jumping are prominent.

In the country every able-bodied voter is held liable for service in the Fire Brigade. Training of this nature has a practical value.

3. More care is paid to the development of the inner organs, viz.—the heart and the lungs. Gymnastics are not looked on simply as a muscle-producing exercise.

The Swiss seem to believe that the skeleton develops up to the age of twenty-five, but that the muscular power continues to develop till past thirty years of age.

4. So far as is possible, physical exercise is introduced on every day of the week.

This is a pious wish. One good authority who has had a long experience with *girls* writes to me thus:— *Mr A. J. Pressland, M.A.* 3 Oct. '02.

'Twenty minutes gymnastics per day is a lot better 'than two hours a week as we have it. We have been 'fighting for this change on more than one occasion, 'but the results are poor till now. Two hours is more 'convenient for making up a time-table.'

5. Open-air gymnastics and free movements are encouraged.

Preparation for military service.

The Federal code takes no notice of the instruction given previous to the age of ten, nor does it make any provision for girls. It is arranged as a preparation for military service in two grades:—

(1) For boys between the ages of ten and twelve.
(2) For boys between the ages of twelve and fifteen.

In each year provision is made for eighty lessons of one hour each. Few country schools manage to overtake this amount. For them a special selection, consisting of sixty lessons per annum, is made. This represents the legal minimum. Taking Switzerland as a whole, only 36 per cent. of the schools reached this minimum in 1900. The principal defaulters are to be found south of the Alps.

In country schools pupils of all classes are drilled together. To meet difficulties, which occur owing to difference of physique, the Code assumes three degrees of proficiency for each exercise, and arranges a standard in each exercise for each degree.

Course of instruction.

From the teachers' point of view the chief change made has been from a purely systematic course to one that is both systematic and methodical. The methodical hints in the new code relate to the words of command, the division of the period, the supervision of the ventilation, the exercises suitable for hot weather, and the precautions to be taken when a class is mentally fatigued. The necessity for variety in the exercises and for the proper division of the work between class performances and individual efforts receive due emphasis.

In all classes marching drill is taught, both quick-step and double. The stave exercises are preparatory to gymnastics with the rifle. The stave is a yard long and weighs about 5 lb. There seems to be no graduation in the weight of the staves. I saw boys of twelve practising with bars that were much too heavy.

A gymnastic period is divided normally as follows:—

(i) Concerted movements and free gymnastics	7 to 8 mins.
(ii) Exercises on apparatus	10 „
(iii) Trunk movements and running	7 to 8 „
(iv) Harder exercises on apparatus	10 „
(v) Jumping and balancing	5 „
(vi) Games (tick, prisoners, leap-frog, rounders, tug-of-war)	10 „
Total	50 „

Code.

The third grade of the Federal code overlaps the military drill-book. The syllabus is at present under revision. A boy who passes through this third grade is usually put into a separate company when he goes up for his recruits' training. He has also a better chance of becoming a non-commissioned officer. For those who remain at school till the age of eighteen attendance is compulsory. For other persons opportunities are afforded by voluntary gymnastic societies and cadet corps.

At the Kantonsschule (age of pupils 12–18½) two hours per week are devoted to compulsory gymnastics. The third grade of the military code is passed in the following manner:—

Three classes are formed—

Class (I.) for pupils between 15 and 16.
„ (II.) „ „ 16 and 17.
„ (III.) „ „ 17 and 18.

Time.

Each of these classes devotes one hour per week during summer to military exercises. Class II. devotes an additional hour per week in winter. The work

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consists of drill, marching, and firing exercises. These classes are given special half-holidays, amounting to six in the summer half-year, for field days and firing practice. The field days fill up the whole afternoon (six hours). For firing practice boys are required to give up two Saturday afternoons in the term from their free time.

Boys above the age of eighteen are preparing for the matriculation examination, and the work is made lighter for them by the omission of drill. This drill comprises the usual company movements, stave exercises, etc., and also obstacle climbing in full military attire.

Cadet corps.

At Winterthur the secondary schools combine with the Higher Grade School to form a cadet corps. There is an infantry detachment of about 300 and an artillery corps with 50 members. The usual time for practice is Saturday afternoon. Great attention is paid to marksmanship.

Optional courses.

In the Higher Grade Schools of Zürich optional courses are arranged for pupils. These courses combine firing practice and marching, and are held in summer only. The marches last, as a rule, about three hours, and take place on free afternoons. Practice in judging distances, obstacle climbing and games are indulged in on the march, so as to prevent it becoming a monotonous tramp. Free gymnastics are no longer demanded when marching.

In these optional courses instruction in the use of fire-arms begins in the second class (thirteen to fourteen years of age). It is confined in that class to an explanation of the mechanism of the rifle and the use of the cross-bow for aiming. In the third class (fourteen to fifteen years of age) the cadet's rifle is used.

Voluntary gymnastic societies.

At various places in the Canton, voluntary gymnastic societies are formed. These at present number 1721 members in the district of the Sixth Army Division. Of these 849 are members of the Zürich Town Clubs, 501 are enrolled at Winterthur, 220 in the Zürich Oberland, and 151 in Schaffhausen (Kt. Sch.). These societies existed long before 1874. Their character may have changed since then. By joining them a boy can manage to pass the 'Militärischer Vorunterricht,' which is noted in section 81 of the Federal Wehrgesetz of 1874. Attendance at this instruction has not yet been made compulsory. In a number of Cantons attempts have been made, since 1884, to carry it out with optional enrolment, but compulsory attendance. The Canton of Zürich, and more especially the town, is in advance of other Cantons in this respect.

It must not be assumed that the sole object of the 'Turnverein' is to enable its members to prepare for military service. A gymnastic club is as frequent among German-speaking people as is an association football club in Scotland. On Sunday afternoons the Swiss villagers practise shooting with the same zeal that the English west countrymen practised single-stick and the men of the Border archery.

Girls.

Girls.—The regulations for boys apply, so far as this is possible, to girls also. Instead of military exercises, games are played at the Girls' High School, for which purpose special afternoons are set apart, and the tennis courts at the Belvoir Park are reserved on these afternoons. This exercise is in addition to the two hours' compulsory gymnastics per week. The value attached officially to gymnastics for girls is best shown in section 12 of the new code (Verordnungen), which decrees that attendance at gymnastics is compulsory for girls in the extended Primary School. The time given to compulsory gymnastics is the same for girls as for boys. The latter, in a number of schools, get one hour more of gymnastics per week while the girls are engaged in the sewing school.

It is to be noted that in some girls' schools too much attention is paid to attractive effect. It is much easier to do graceful movements on the smooth floor of a gymnasium than on the gravelled playground. Some teachers are inclined to keep their classes in the gymnasium too long, and often when the weather is quite good. In Berne, I understand, the authorities seek to prevent this by building no more gymnasia; when the weather is bad the time-table is changed. In Zürich, of recent years, gymnasia have been built with one side open to the air. This practice may very likely be imitated at Berne in the near future.

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Half-timers.

Half-timers' School.—In summer a number of country schools are open on two days a week only for pupils between the ages of twelve and fourteen. On each of these days 4½ hours' teaching is given. One half hour is allotted to gymnastics per day, 'as much on account of the moral discipline as for the hygienic results,' to quote the words of the Committee entrusted with the organisation of these classes.

Opportunities.

Supply of Apparatus and Facilities.—The Commune, in the first instance, is responsible for providing all facilities. The Canton gives grants to communes in aid of expenses incurred according to a sliding scale of taxable capacity. In 1899 all schools in the Canton, with one exception, had a playground. About 3·7 per cent. of the schools had no apparatus. A considerable number of schools had no covered gymnasium, a source of disappointment to local gymnastic societies, who would be glad to use it at night. When the Commune does not wish to pay for a gymnasium, ardent advocates of open-air gymnastics abound. But the Zürchers are not stingy in supplying facilities. At Küsnacht a new gymnasium is to be built at a cost of £1600. At Kilchberg the estimate is £2320. The school population of the former place is 310, of the latter 230.

These gymnasia are under the control of the School Board. They are readily lent to local gymnastic societies for evening practice. A small fee is charged to clear expenses.

Teachers.

Supply of Teachers.—In Volksschulen the class master is primarily responsible for the teaching of gymnastics. He has usually completed a period of military training, and has been taught to give gymnastic lessons when studying at the Training College. The course at the latter lasts four years. Two hours a week are devoted to gymnastics in each year. Before a certificate is granted a pupil must pass an examination in the method of gymnastics and give a trial lesson.

Most of the teaching in Volksschulen is done by men. The mistresses have passed in a course of gymnastics, but the system of mixed classes makes the authorities prefer men. The latter are taught the main points of difference between gymnastics for boys and gymnastics for girls in the Training College courses. In the lower classes the mistresses take the gymnastic lessons of their classes. I saw a mistress drill a class of 53 boys aged eight to nine without any breaches of discipline save those caused by excessive eagerness. I also saw a mistress drilling a class of weak-minded children who attained to considerable proficiency in marching.

At the Secondary Schools special gymnastic instructors are engaged, some of whom hold commissioned rank in the army.

Teachers' classes.

During vacations intercantonal courses for teachers are held with a view to improving the standard of instruction. These courses last about three weeks. The Cantonal authorities make grants to such of their teachers as attend. When the new Code was issued the canton of Zürich instituted three repetition courses for teachers to enable them to cope with the altered arrangements. The school chapters also discussed the new Code very thoroughly, and model lessons were given at their meetings. At the present date (September 1902) difficulties are still found in teaching gymnastics, owing to the confusion of the words of command.

Similar courses are held for mistresses. The courses for teachers as well as those for mistresses are arranged by the Swiss Gymnastic Club (Schweizerischer Turn Verein) and by the Swiss Society of Teachers of Gymnastics (Schweizerischer Turnlehrerverein). These clubs are subsidised by the Federation. The cantons make grants to the persons attending the courses.

School marches and excursions.

Two types of excursion are organised for the pupils, the Field Day, or Ausmarsch, for older boys, and the Schulreise (school journey) for

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younger pupils. The usual duration of the former is from three to six hours. Some companies make a long route march, from twenty to thirty-five miles, to test endurance. Others, and this is exceptional, may spend a night away from home. The educational aspect of the march is not neglected. Historic sites are visited, and the sentiment of patriotism is kept alive in every manner.

In September of this year I made an Ausmarsch with a class of 55 boys aged seventeen to eighteen. It lasted six hours, from 2 pm. to 8 pm. The work of the company was very creditable, it showed thought in the actual manœuvres and endurance in the physical tests.

In 1893–95 I trained boys at the Edinburgh Academy for the physical endurance test demanded of candidates for Cooper's Hill. One year we got first place and another year third place. With the class mentioned above I could have done quite as well with three weeks more training. The boys were in capital condition and ready to undertake anything.

In the secondary schools marches are combined with military training. In the Primary and Higher Grade Schools, however, they possess a character of their own. Attendance is voluntary but none the less good; about 60 per cent. of those eligible (between the ages of twelve and fourteen) in the town of Zürich took part. The members are organised in squads of thirty. When the squad is drawn from one class and is under the control of the class master discipline is easy. In other cases difficulties occur. In winter few marches take place, as the weather is frequently unfavourable, and other means of exercise, notably skating, are available.

In the country many of the children have a long way to come to school, and out-of-door employment is everywhere at hand. The marches are therefore considered unnecessary.

A report by the Central School Board, dated 13th June 1901, shows that in 1900 there were 918 boys, between the ages of twelve and fourteen, who enrolled themselves for the marches. The length of the march varied from three to twelve hours—the average was five and a half hours. From the reports of those in charge it appears that, while marching was vigorously practised, surveying, photography, and distance judging were freely indulged in. In autumn the pupils devoted a whole day to following the army manœuvres. As an experiment, two squads made a whole day excursion. They were on foot for eight hours, but the total expense, food and train fare included, did not exceed ninepence per head.

The school excursion is a lesson in the open, either in botany, natural history or geology. It should be noted that 'Naturkunde' is a subject in primary classes IV. to VIII., and in the Higher Grade School. It is excellently taught, the accessories (Anschauungsmaterialen) are numerous, and the class is encouraged to make observations in the open for itself, either in the school gardens or in the woods. The excursion is very popular with girls. In the Girls' High School, where geology bulks largely in the work, long tours extending over several days are made. In the Higher Grade Schools less ambitious tours are undertaken. Each party of girls must be accompanied by a teacher and a mistress, both of whom are qualified to render first aid in case of accidents. Small children in the elementary school and Realschule make school journeys (Schulreisen). These are usually festivities at the end of term. The children come home headed by a drummer and bearing a miscellaneous assortment of flowers, weeds or insects.

Games.—Since 1898 serious attempts have been made to organise games for school children in Zürich town. These have met with considerable encouragement, but there have been many difficulties to face, and a number of mistakes have been made. At present games are organised, for boys between the ages of ten and twelve, and for girls between the ages of ten and fifteen. The practices are under the supervision of masters and mistresses, who frequently take their charges into the woods to play. In many parts one comes across a clearing of an acre or more in the woods. This has been sown with grass and laid out as a playground. The value of such grounds in the pine woods for children inclined to be consumptive is held to be considerable.

In Zürich (old town) games were first introduced by Herr Schurter about 1885. Cricket never found a firm hold, but football has prospered.

In a number of the newer schools (Higher Grade schools) playing fields are provided in close proximity. They seem somewhat too small to British eyes, but it must be remarked that sites are dear. The children seem to be rather too ready to take refuge in the Gymnasium, where they play rounders or practice running maze, instead of playing in the open.

In the secondary schools there are no organised school games' clubs. Pupils join rowing and football clubs in the town. This is rather undesirable, as it introduces a pupil too early to club-life. One master told me he could always tell when a pupil joined a club. His work immediately became worse.

Swimming. Swimming.—In Zürich town arrangements are made for teaching swimming to children of twelve years of age. A number learn before this age. Altogether about 65 per cent. of those concerned enrol themselves at the beginning of the season. At the end, including previous swimmers, about 60 per cent. of the pupils of age twelve can swim.

These swimming classes are supervised by the members of the Zürich teaching staff. Twelve professional teachers are engaged to give instruction.

The school baths are all spray or hip-baths. No Volksschule has a swimming bath. There are swimming baths in the town to which children get access at reduced charges.

Sickly children: special measures. Special arrangements for sickly children. In accordance with section 51 of the Act of 1899, grants are made towards the provision of food for poor children, the maintenance of day-homes, the expenses of holiday colonies and convalescent stations. The funds for this purpose are usually derived from the 'Alcoholzehntel,' which originates as follows:—The manufacture of spirits is a federal monopoly and yields a handsome profit. This is divided among the various cantons, who are bound to expend one-tenth of the amount received in combating the effects of alcohol.

The Annual Report of the Zentral Schulpflege of Zürich Town (1901, pp. 64–75) contains an account of the measures taken by the Board. The total expenditure for food and clothing amounted to £800 in 1901. There were on an average 1787 participants. Some portion of the expenditure was met by private subscription.

The following remarks by a well-known authority in Zürich are worth recording:—"With regard to underfed children I decidedly think the school ought to step in for them. The school authorities can help the poor boys and girls in a much more efficient way than any charitable society. The school stands in higher repute than any society with the public; it enjoys the confidence of all creeds and denominations; it can exert better control and avoid spending in wrong places much better than any benevolent societies. Where charity is mixed up with religious questions it is often ill-used as a means to attract adherents and converts; and sly poor people sometimes succeed in making quite a tolerable living out of this contest."

Holiday colonies. Holiday Colonies.—These were started in 1876, and have been organised for some years as follows:—Fourteen different stations are chosen in the north-east cantons. At each a large house is taken where the children dine and sleep. The house and the arrangements are under the care of two married teachers and their wives. The average number of pupils per party is fifty. The number of persons in control is calculated at one for ten children. Additional help is rendered, voluntarily, by other members of the Zürich staff. The holiday homes exist for about 25 days, the cost, including railway and office expenses, is about 40 francs per head. It is met partly by communal contributions, partly by private

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subscriptions, and partly by parents' payments. These latter are voluntary subscriptions. If a child should not be selected by the Committee it may still join the colony on payment of 50 francs. This concession is taken advantage of by some patrician families who wish their children to have practical acquaintance with democracy.

One of the stations belongs to the Association and is open all the year. In holiday time it is used as a holiday home. During term time sickly children are sent to it from the town. They are fed, housed, and taught (two hours per day), and, when they have regained their health, are able to rejoin their former school classes without difficulty. This station is under the care of a resident teacher who supervises arrangements during the holidays and teaches the children during term-time. On the 17th September I spent the greater part of the day at this home, and can speak in praiseworthy terms of the arrangements. I also inspected the squad of children returning from the house after a month's stay and the squad arriving for a month's cure. The difference in general physique was striking. The behaviour in all cases was much better than one would imagine.

In this manner about 600 of the poorest children in the town get an annual holiday, and nearly 300 others are treated during the session.

No public Boarding Schools.

Boarding arrangements.—There are no public boarding schools in the Canton. Private persons may take children of school age as boarders under precise conditions. Permission must be obtained from the Board of Health, who consult the local health authorities. The applicant must send a certificate of respectability from the Parish Council and a medical certificate of health. The local health authorities satisfy themselves that the dwelling is in good sanitary condition. They arrange further that each child shall be inspected every quarter by a doctor.

Two items of school arrangement have given perplexity to the authorities. These are the style of writing and the type of desk.

Style of writing: type of desk.

The question of sloping or upright writing has led to a paradox. With an upright hand the eyesight suffers, with a slope hand there is danger of spinal curvature. The question has been discussed times without number. At present a slope hand is in vogue. The elaborateness of the discussion has been caused to a great extent by the system of popular inspection. Herr Grob of Erlenbach, Zürich, writes that he is preparing an article on the subject which will be ready in winter. I have not met this gentleman, but his opinion should carry great weight. In 1893 there was published 'Untersuchung über den Einfluss der 'Heftlage und Schrift richtung auf die Körperhaltung 'der Schuler,' by Doctors Ritzmann and Schulthess and Mr Wipf, schoolmaster. Dr Carrière, in a report written from materials in the Federal Office of Health, declares (p. 45) that upright writing has not been made obligatory in any canton.

The type of desk has been described in section 25 of the Verordnungen of 1900, and in the annual report of the Central School Board for 1900. I produce photos of various desks which have received approval. The latest model is the Zürcher Schulbank. It has at 10 cm. from the ground a foot-board with one oblique side which is smooth; this serves to support the feet. The top side is horizontal, and milled so as to receive the dust from the children's feet. The seat is shorter than the table, and underlies the latter by 2 cm. It is fixed in this case (an innovation). The needlework desk has also been remodelled. The top is now horizontal but the seat movable. The new desk is made in eight sizes, the needlework desk in four sizes.

The Zürich Committee for Public Health in Schools has of late years discussed the question of the best method of carrying school-books, and has waged war on the nasty question of parasites. In case of the latter being discovered, pressure is put on the parents, advice as to treatment is given, and the child excluded from festivities. The School Board has, however, no compulsory power, and wishes to hand the question over to the Board of Public Health, which has compulsory powers and may regard the evil as a contagious disease. The matter is not yet settled. The probable result will be that the Board of Health undertakes the duty of public cleansing while the teachers become its voluntary inspectors.

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Time allotted.

The time devoted to physical exercise in schools may be summed up as follows:—

1. A break of seven to ten minutes every hour. In a long morning one break is fifteen minutes.
2. In the Kindergarten, no fixed amount.
3. In the Primary School—
   Age six to seven, one hour gymnastics per week (often in various detached portions).
   Age seven to twelve, two hours' gymnastics per week.

This applies to all pupils. Boys frequently get an extra hour per week while girls are learning to sew.

4 In the Higher Grade and Secondary schools (town).

Boys.—Two hours per week gymnastics. One hour per week for two years (military exercises). Six half holidays for marching and shooting per annum. Two free Saturday afternoons taken for firing classes.

Girls.—Two hours' gymnastics per week. Special games' holidays. Excursions (equivalent of military exercises for boys). At least one extra half-holiday per month.

Note.—In all Higher Grade Schools one game (two hours) is played per week. Enrolment is optional but attendance is compulsory.

Results.

Results.—It is difficult to give any positive statement as to results, since physical exercise is often only one factor in determining them.

The following statistics may be of interest:—

1. Mortality.—

	Deaths per 100,000.	
	Federation.	In Towns of 10,000 Inhabitants and upwards.
(*a*) *Tuberculosis.*		
Period 1876–1880, .	234·8	321·5
,, 1896–1898, .	208·1	238·9
(*b*) *Diseases of the organs of respiration.*		
Period 1876–1880, .	238 } per 100,000	
,, 1894–1898, .	206 }	
(*c*) *Diseases of the heart.*		
Period 1876–1880, .	71·4 } per 100,000	
,, 1894–1898, .	90·0 }	

2. Medical examination of recruits.—The gymnastic code was introduced in 1876. The medical examination was made more stringent in 1880–1881. Recruits are examined at age nineteen and begin service at age twenty.

Factory Acts.

Factory Acts.—The Federal Factory Act dates from 1st January 1878. It is modified locally in certain details, *e.g.*, payment for overtime. The following provisions may be of interest:—

1. A factory is an industrial establishment where a number of workmen are employed simultaneously and regularly outside their homes in a circumscribed area. In practice it is assumed that the 'number' must exceed five.

2. A day's work does not exceed eleven hours, with a break of one hour for rest. Before Sundays and feast days the amount is reduced to ten hours per day.

3. In no case may women be employed either on night work or on Sundays. At child-birth a period of eight weeks' absence from a factory is enforced. Of this period six weeks must occur after accouchement. This practically enforces a period of previous rest. The result has been a decrease in the number of still-births and an average increase of ten ounces in the weight of newly-born infants.

4. Children below fourteen years of age may not be employed in factories. From fourteen to sixteen years of age the total week's work for such children (school, factory, and religious services included) shall not ex-

ceed eleven hours a day. No person under eighteen years of age may be employed on night work.

The attitude of the population towards gymnastics is favourable. The sense of discipline is strongly developed in the people who take pleasure in collective work. The love of outdoor games is not so marked. Boys of fourteen have told me it is childish to play with a ball. What is principally lacking is initiative in developing games. In the country there is plenty of outdoor work, and games are not considered necessary. In the town they are considered healthful and valuable as aids to the formation of character. But in all schools the work is the principal feature. There is little danger of the physical education being neglected. There is absolutely no danger of neglect of work. The presence of Germany with its magnificent traditions of Wissenschaft, the long line of Swiss thinkers, and the necessity for wringing a living out of a poor country, all tend to make work the principal feature of the Swiss schools. The moral education which is drilled into pupils, the instinctive recognition of obligation which is so characteristic of Teutonic people, and the feeling that, young as they are, boys are able to repay some of the debt they owe to their country, combine to make gymnastics and collective physical exercise a pleasure to the Swiss boy. You would never get two thousand Swiss boys to look on while thirty others played. If they desired a spectacle they would go to a theatre and see something intellectual.

Two teachers of Gymnastics deserve mention :—

1. Phocion Klias, the son of Swiss emigrants, was born in the U.S.A. On the death of his parents he returned to Switzerland, where he was discovered in 1822 by some British officers at Berne. He was appointed Professor of Gymnastics at Woolwich, Chelsea, and Greenwich, with the rank of captain. For five years he was the fashionable teacher in London. In 1828 he returned to Switzerland, where he took pupils up to the time of his death. He was a splendid performer, but excessively vain. He left his skeleton to the Anatomical Museum in Berne as a model of a perfectly developed man. The democratic trustees, however, buried it.

2. Adolf Spiess was the principal educational gymnast. In 1836 he wrote a book on Gymnastics, in which he demanded :—

(1) That gymnastics should be considered a regular subject of instruction.

(2) That every class should be taught gymnastics by its class teacher.

(3) That every class should get one hour gymnastics per day (one half on apparatus, the other half games).

(4) That gymnasia should be near the schools and used in winter as well as in summer.

(5) That gymnastic exercises should begin at the age of entrance and be compulsory for girls as well as boys.

In 1840 Spiess wrote a Gymnastic Code (Turnlehre), in which he advocated Free Gymnastics.

In conclusion, I would ask the Commission to remember that this report is only a by-product of a much larger report for another Board. It has been written in a hurry, and time has often been wanting to digest the details. I would, however, urge three practical steps.

(1) A compulsory examination of eyesight and hearing of all children on first entering school. A re-examination of eyesight and an examination of the teeth at age twelve.

(2) The issue of instructions to School Board auditors that they shall allow all expenses connected with the teaching and supervision of children sent to holiday homes which may appear in School Board accounts.

(3) The inclusion of some form of moral education in the teaching of children between the ages of twelve and fifteen. This education not to be religious, but to embrace the duties and privileges of the citizen. Attendance to be compulsory. Before this could be introduced, a preliminary course of Moral-Pädagogik will be necessary at our Training Colleges. Improvised teaching on the necessity for being good is worthless.

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The last question is attracting great attention in America and on the Continent. It was discussed in full at the meeting of the Zürich School Synod held at Wetzikon which I attended, and a resolution was unanimously passed by the teachers that such instruction in 'Civics' should be obligatory in all schools and in all classes.

14,059. *By Sir Henry Craik.*—You begin your evidence with regard to the regulations of the Canton of Zürich. These have undergone considerable changes?—Yes. That was in the Act of 1899 affecting the primary schools. The Secondary Schools Act has not passed, as they cannot afford the money just now.

Recent legislation.

14,060. What bearing has recent legislation had on physical training?—There has been very little increase in the amount of physical training, as it was well developed before. The primary classes 7 and 8 are new classes, and the old half-timers' school has been abolished. These two classes 7 and 8 take its place.

14,061. For older children?—Yes. There is a half-timers' school in the country in summer, and the Commission selected to draw up the time-table insisted on gymnastics for those children. As I say, in regard to the half-timers' school in summer, a number of country schools are open on two days a week only for pupils between the ages of twelve and fourteen. On each of these days four and a half hours' teaching is given. One half hour is allotted to gymnastics per day.

14,062. When you speak of half-timers' school, is that a school where the pupils are in employment for the rest of the time?—Yes.

14,063. What I want to ask you is in regard to both these half-timers' schools, and the ordinary schools; did the Canton of Zürich feel it necessary to increase the stringency of the rules as to physical instruction in their recent legislation?—This has been perfect since 1836.

14,064. It has been carried on for a long time?—Yes.

14,065. It has been a very highly developed system?—Yes.

14,066. I think it varies according to the statistics you give in different places?—Yes, in different cantons.

14,067. And the rules laid down have been carried out, I think you say, only by 36 per cent. of the schools?—Yes, it is 35·2 per cent. in 1898, 37·4 in 1899, and 36 per cent. in 1900.

Too high a standard o training: classes.

14,068. There is a slight drop in the number of schools that don't attain even the minimum required by these legislations?—Yes, but I don't think it is a matter of importance.

14,069. Apparently the demands made by these rules have been rather in excess of what the schools found possible to carry out?—I think it is simply a question of money.

14,070. But it is a fact that for one reason or another they could not quite carry out these rules?—That is so. I think they have set the standard too high, but there is a large foreign element which has to be kept in order and has to be taught, and it is a great nuisance.

14,071. What would be the causes that have rendered it difficult for the schools to come up to this required standard? You said the presence of a certain number of foreigners and the want of money?—The want of money is a great thing, but principally the fault is due to political causes, in the main to a want of compelling power by the Federation.

14,072. Do they complain of the want of time?—No, I have heard no complaint as to want of time. A difficulty has arisen lately in consequence of the introduction of this new code. I have given in my evidence some extracts from the new code. Mr Spühler, at Küsnacht, told me that he had found a great difficulty with the girls when drilling in the training college. They were continually giving the old word of command instead of the new one.

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Regulations.

14,073. You have not found any complaint as to pressure of time brought about by the more intellectual subjects rendering it impossible to comply with this code?—No. The main thing in Swiss education is that they have a fine selection of stuff that they teach.

14,074. We find that these rules apply equally to girls and boys?—Yes. At the training college the various candidates are taught the difference between gymnastics for boys and gymnastics for girls.

14,075. Do you think generally that these regulations are based chiefly upon the strengthening of the resources of the population, as regards the military power, or are they educational in their aim?—They are both.

14,076. Which do you think prevails chiefly?—I think the military spirit has prevailed hitherto. There is a great outcry for moral education.

14,077. On the part of the population?—On the part of the teachers. I have referred to that at the end of my statement.

Teachers' courses.

14,078. In the training, what courses do the teachers go through? Do all teachers take this physical training?—Yes, unless they are physically incapable of it.

14,079. Men as well as women?—Yes.

14,080. In some cases you say it is carried on by non-commissioned officers in the army?—Commissioned officers; that is in the secondary schools. In the other schools it is done by the Volksschullehrer.

14,081. That is the teacher you mean?—Yes.

14,082. You find that the games are defective, although physical training is carried on very well?—Yes, because they don't have the genius for developing games, and then they get quite enough physical training in the school.

Games and training.

14,083. Physical training has bulked so largely, and perhaps directed and shaped the tastes of the pupils. Do you think it is a regrettable thing that it should have driven out games?—They, the Swiss, do not, because games in Switzerland introduce a boy to club life, where he learns to smoke and drink, and hears generally undesirable conversation.

14,084. Would you not think it a matter of regret if we introduced this systematic training to such a large extent as is done in Switzerland if it had the effect of lessening the games?—I rather think that between 1880 and 1890 (I won't speak of the past five or six years) we played too much in England. I have no acquaintance with Scotland before 1890, but I think games were overdone in England.

Scotch and Swiss boys compared.

14,085. You said you saw the result of the route marches, and you have tried the same thing in the Edinburgh Academy. How did the boys compare?—I should say that with the whole class of fifty-five in Switzerland I could have attained the same standard in three weeks as I was able to do with my boys in the Academy.

14,086. I don't quite understand. How do the Edinburgh boys compare with these Swiss boys? Do you say that you could make the Swiss boys do all the Edinburgh boys can do in three weeks?—Yes.

14,087. And how long would the Edinburgh boys take?—A term.

14,088. How long a term?—Twelve weeks.

14,089. You say that you could have done as much in three weeks with the Swiss boys as you could do in Edinburgh in twelve?—As they were then.

14,090. *By the Chairman.*—You say that the Edinburgh boy is, therefore, inferior to the Swiss boy as he is?—I think that our boys at the Academy could not march so well as the Swiss boys.

14,091. *By Sir Henry Craik.*—You attribute that to the careful and systematic training in Switzerland?—Yes, the training in marching.

14,092. You are inclined to draw the inference from that, that the systematic training is of more value than the games, because there is no doubt that the Edinburgh boys have more games than the Swiss boys?—If I had them on the same footing, I would get the Academy boy to beat the Swiss boy. He would be able to do that if he had the training.

14,093. But without the training he could not?—No.

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14,094. Summing up the result of their training, it is very decidedly military in its character?—Yes.

14,095. Do you find any objection to that on the part of the parents?—No. Might I tell you one or two things about the army? There is no standing army in Switzerland. There is a militia. At the age of twenty the recruit goes up for his training, when he serves seven weeks, and every second year he has to come out for three weeks' training up to the age of thirty-two.

Military training.

14,096. I see also, that besides mere military training there is certain compulsory training in fire brigade work?—They may be called on to qualify, but, as a matter of fact, they pay taxes and keep a brigade. In the country, however, if they don't feel inclined to pay the taxes, then they have to serve. It is simply a matter of arrangement between them.

14,097. Do you think that there would be an objection to the military element on the part of Scottish parents?—I have heard that.

14,098. There would be more objection than you have found in Switzerland?—Yes. In Switzerland there is always the danger of invasion.

14,099. As to the statistics you give of deaths, are they synchronous with the two periods of physical training to which you refer?—Yes.

14,100. You state that during the later period physical training has been a little more developed?—I wrote to Dr Schmidt, and that is what he told me.

14,101. Is it not an odd thing, that although the percentages from tuberculosis and diseases of the organs of respiration have fallen off, the diseases of the heart have increased?—I am just giving you the facts.

14,102. Do you think that points to any possible strain from this marching or the high development of the physical training?—I think it might possibly be developed by those stave exercises. The staves are far too heavy. With the stave exercises they have to raise their arms above their heads, and that puts a strain on the heart. I am certain that the staves are too heavy.

14,103. What inference do you draw from the table of statistics that you have handed in? I have studied the statistics, but I don't quite see the inference?—I have not drawn any inference, but I could tell you some things which might lead you to a result. First of all in French Switzerland, the Germans say that the examinations are not so hard in order to gratify French vanity, so that they may come out at the top. Those figures they say ought, therefore, to be discounted, but I have no personal evidence to give on that point. Columns one, three, five, and six contain the towns; column eight is almost entirely a large country district. I have a map which will show the districts much easier.

14,104. You need not mind. You are accustomed to results of examinations?—Yes.

14,105. Would you not be inclined to agree with me in saying that on the whole these percentages show a surprising uniformity, more uniformity than one would have expected?—Yes. The examination has been made harder since 1879, and if you took 40 for 1879 instead of 42·9, I think you would be nearer the mark. That means, that in consequence of this new federal code of 1876, out of 100 young men you got 40 serviceable recruits, and through the introduction of the later code you get from 51 to 52.

14,106. An increase of about 10 per cent.?—Yes, nearly 12 per cent.

14,107. This training has been going on for a long time?—Yes, in Zürich, but I am not sure about the Federation. In 1874 there was a revision of the constitution, and in 1876 the federal code of gymnastics was introduced.

14,108. Have you worked yourself in State-aided schools, or among the scholars of State-aided schools?—No, I have simply worked in secondary schools.

14,109. You have no experience of State-aided schools?—No, not here, but I have inspected every kind of school in Zürich.

14,110. But not in England or Scotland?—No.

14,111. You have no opinion to express as to the best method of drawing this class in Scotland to attend classes corresponding to 7 and 8?—No, I cannot give a personal opinion.

14,112. On the whole, the result of your examination of these Swiss schools is that you think there has been there a very complete system of physical training, but in later years it has been much developed and increased?—It has been better organised since 1876.

14,113. It is so stringent that the schools have some difficulty in meeting it, not from any want of desire on the part of the parents, but from the want of money?—Yes.

14,114. And the result is, to your mind, to produce good physical types of men who, starting with perhaps a worse physique than the English or Scottish boy, on the whole, after a course of training, turn out to be rather better adapted in physical work?—Yes. I went to a school in the low quarter of Zürich, which boys in classes 7 and 8 attended, the most town-bred of town-bred boys. There was a class of fifty-five boys at drill there, and I looked very carefully at their physique. They struck one generally as having the kind of development seen in a young mechanic serving his first year of apprenticeship. I could not point to more than three or four that looked weak.

14,115. They were not picked boys; they were just an average?—That is so. There was one that looked anæmic, but he may have just been recovering from an illness, and there was another who, I thought, had one leg shorter than the other.

14,116. On the whole, they compared well with any similar group of boys taken in a town in Scotland?—Yes, and that was due to the training.

14,117. *By Mr M'Crae.*—Each boy gets physical exercise at school; after he leaves school and before he joins the militia, what provision is there for physical training?—It is entirely voluntary. If he goes through the third course, then in coming up for recruit service he is put into a better company, and has a better chance of being a non-commissioned officer, getting better quarters, better food, and perhaps a few more centimes.

14,118. He does not require to go through the ordinary recruit drill if he passes that class?—Not entirely. I have shown my statement to the principal gentlemen in charge of gymnastics in Switzerland, and I have also shown it to one of the sergeants in the army.

14,119. You say that they have a cadet corps attached to the secondary and higher grade schools?—Yes, in Winterthur the secondary schools combine with the higher grade schools, because the secondary schools there are small.

14,120. Are there any cadet corps in connection with the primary schools?—The education in the primary schools finishes at the age of twelve. In my evidence you will find that I say that the federal Code takes no notice of the instruction given previous to the age of ten. It is arranged as a preparation for military services in two grades, first for boys between the ages of ten and twelve, and second, for boys between the ages of twelve and fifteen.

14,121. But that is hardly my question. They get education at the primary schools up to fifteen?—No, up to fourteen.

14,122. In connection with the primary schools, you have no cadet corps?—No. The extended primary has ausmärsche and a little cross-bow practice.

14,123. Have all the secondary schools cadet corps?—Yes, corresponding with the cadet corps here.

14,124. *By Mr Fergusson.*—I suppose, apart from this special Swiss work, you have a large experience of schools in Scotland?—Yes, I have been teaching in Scotland for twelve years.

14,125. Applying all your knowledge and experience of schools here, if we are going to increase the amount of physical training in Scotland, would you like to see a universal hard and fast rule laid down for all schools?—No, there must be some elasticity.

14,126. What sort of system should be adopted for schools?—You are asking a very hard question.

14,127. You have not considered that?—No. I may say that the statement I have prepared is only a by-product of another report, and it was written in a great hurry. I understood that you would not ask me about systems or courses.

14,128. You are only prepared to speak to the Swiss treatment?—Yes.

Supervision.

14,129. *By Mr Shaw Stewart.*—In the beginning of your evidence you say that the Act gives power to the Guardians, to remove their children from the custody of drunkards and criminals, and that the usual procedure is for the teacher to represent that a child is being neglected or overworked by house duties. You then say that the Guardians then institute an inquiry. What Guardians are those?—I don't know what they are. They are some of the various governing bodies; they are distinct from the school authorities. It is something in connection with the poor law which does not come within my knowledge. There has been considerable friction over that. It was in 1900 that the School Synod brought up the question of the relation between the teaching staff and the supervision of criminally disposed children, and the teachers rather revolted. They refused to look into the home conditions of the children. Pressure was brought to bear on them, and the teachers accepted the situation, and it has been found to be an advantage to the Canton.

14,130. Then the onus of taking them away from intemperate parents really falls on the teacher?—I would not say altogether. There is a high standard of public duty there, and anyone who sees a thing going wrong does his best to put it right.

14,131. He must do it through the teacher?—Not necessarily.

14,132. You say that is the usual procedure?—Yes, the teacher has the best opportunities for observation, but anyone outside who is a member of the Parish Council, for instance, can take it up if necessary.

Report for Board of Education.

14,133. *By the Chairman.*—I see you have been engaged since 1899 on a report for the Board of Education?—Yes, and I fear it will take another two years.

14,134. You have been really so busy over this, that you have had little time to think of anything else?—That is so.

14,135. Were you invited to do this work?—I went to Zürich in 1899 in order to study certain questions for myself, more especially in regard to the teaching of mathematics in the Academy. I was asked then by Mr Sadler to write a complete report on the Swiss education from Kindergarten to University; I am going to do it, and it will be complete. There is one other thing I might mention; I am interested in the holiday colony schemes. I believe in Edinburgh this year they are going to found a permanent home; I know money is being collected.

Holiday colonies.

14,136. A home for whom?—A permanent home for poor children, to take children away from the primary schools and send them to the country and teach them there.

14,137. *By Sir Henry Craik.*—During their holiday time?—No, during the term time. You give them an hour or two hours' teaching for purposes of discipline.

14,138. *By the Chairman.*—Is there not some scheme about taking them to the country school during the holiday time?—I don't know. I think you might ask Mrs Boyd in Edinburgh, who knows about it to give you evidence.

14,139. *By Sir Henry Craik.*—You have not heard of that plan?—No.

The witness withdrew.

Adjourned.

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BRIDGEMAN, Mr W. C.:
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BRUCE, L.F.P.S.G., Mr R. W.:
Medical Officer to Glasgow School Board, etc. Evidence of, 13,776-820.
BRUCE, M.A., M.D., Mr Wm.:
Medical Officer of Health for Ross and Cromarty. Evidence of, 5184-419.
BRUNTON, M.D., F.R.S., Sir L.:
Physician to St Bartholomew's Hospital, London. Evidence of, 471-559.
BRYANT, S.:
Headmistress of the North London Collegiate School for Girls. Evidence of, 8576-679.
BURROWS, Mr E. H.:
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CANTLIE, M.B., F.R.C.S., Mr J.:
Surgeon and Lecturer in Anatomy. Evidence of, 5705-811.
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CARSON, Mr R. W.:
Headmaster, Sanquhar Public School. Evidence of, 11,291-322.
CARTER, M.A., Mr R.:
Rector, Edinburgh Academy. Evidence of, 10,716-59.
CASSELLS, Mr J.:
Vice-Chairman, Govan (Parish) School Board. Evidence of, 9563-627.
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CHESTERTON, Mr T. :
Organising Teacher of Physical Education to the London School Board. Evidence of, 3932-4152.
CHEYNE, M.A., Mr G. Y. :
Headmaster, Kennethmont Public School. Evidence of, 6542-612.
CHISHOLM, LL.D., Mr S. :
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COLVILL, Mr J. C. :
H.M. Inspector of Schools (England). Evidence of, 985-1066.
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