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Torquay Education Authority.

YEAR 1927.

TWENTIETH

Annual Report



ON THE

MEDICAL INSPECTION AND TREATMENT

OF

Elementary School Children

ALSO

TENTH ANNUAL REPORT

ON THE

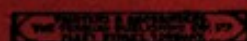
MEDICAL INSPECTION OF SCHOLARS

IN THE

Torquay Secondary School

TOGETHER WITH THE

ANNUAL REPORT OF THE CHILDREN'S CARE
COMMITTEE.





Torquay Education Authority.

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STAFF.

School Medical Officer :

T. DUNLOP, M.B., D.P.H.

Assistant School Medical Officer :

J. V. A. SIMPSON, M.D., D.P.H.

Ophthalmic Surgeon :

D. WILSON, M.B., B.S.

Dental Surgeon :

MISS W. M. HUNT, L.D.S.

School Nurse :

MISS F. M. HUGHES.

Clerk :

MISS E. VYLE.

BOROUGH OF TORQUAY.

AREA OF BOROUGH (in acres)	...	...	3,858
POPULATION (1921 Census) ...	...	...	39,432
NUMBER OF SCHOOLS	...	...	14
NUMBER OF DEPARTMENTS ...	...	...	22
SPECIAL SCHOOL FOR PHYSICALLY DEFECTIVE	...	...	1
AVERAGE ATTENDANCE	...	...	3,280
AVERAGE ATTENDANCE AT SPECIAL SCHOOL	...	...	75
AVERAGE NUMBER ON THE SCHOOL REGISTERS	...	...	3,751



To the Chairman and Members of the Torquay Education Authority.

MR. CHAIRMAN, LADIES AND GENTLEMEN,

I have the honour to present the Twentieth Annual Report on the Medical Inspection and Treatment of Scholars attending the Elementary and Secondary Schools of the Borough.

There have been no changes in the personnel of the staff during the year and the work has been carried out in a very satisfactory manner.

The arrangements sanctioned in 1926 for attention to dental defects in the pre-school child have been continued; the numbers, though small, show a tendency to increase, and we must trust to propaganda at our Welfare Centres to forward this movement. Similarly other cases in pre-school children such as eye defects, tonsils and adenoids, etc., are receiving attention. It is hoped that as time progresses the result of such treatment will become apparent when the children are examined on entrance into school life.

During the year the Devon Association for Cripples Aid formulated their scheme of treatment. Both your Committee and that of the Maternity and Infant Welfare have agreed to join with other interested Authorities to avail themselves of the facilities being provided for Orthopædic treatment. Torquay was selected as a suitable place for one of the Association's Centres and by arrangement with your Authority the rooms of the School Medical Department have been utilised for this purpose. Both the Ministry of Health and the Board of Education have given provisional sanction. The Centre is now in use and several of the Torquay Cripples have been sent to the new Hospital at Exeter.

The report of Dr. Simpson on the Medical Inspection and Treatment of School Children is characterised by the same thoroughness as those of past years. He has continued his experiments on the ventilation of school buildings by the use of the Kata-Thermometer. The Managers of several schools giving poor readings have carried out improvements in the ventilation with very satisfactory results, as shown by much improved Kata readings and more practically by the apprecia-

tion of the teachers in the increased feeling of well-being in themselves and altered alertness of their pupils. Similarly Dr. Simpson has continued his investigations into the "fitness" of certain classes of scholars. The results of his experiments as detailed in the report for 1925 have been recognised by research workers in all parts of the country and are of great importance in the study of the rising generation. Dr. Simpson is to be congratulated on the work he has done and credit is due to your Authority for enabling this class of investigation to be carried out.

The Open-Air School carries on its beneficial work and has proved of lasting benefit to large numbers of delicate children.

The report of Miss Hunt, your Dental Officer, records a year of consistent work. The continued treatment of the teeth of school children has an undoubted benefit on the general health of the children and the educative effect ought to be apparent in future generations.

Nothing but unstinted praise can be given to Dr. Wilson, the Ophthalmic Surgeon, and to Dr. Fenton, the Surgeon for Ear, Nose and Throat, for the invaluable careful work that is carried out by them. The school population of Torquay are fortunate to obtain such able treatment.

I desire to record my thanks to every member of the staff for their loyal co-operation in every movement for the welfare of the children. I have also received cordial co-operation from the teachers and outside agencies, for which I am grateful.

To the Members of your Committee I would like to say how greatly I appreciate the sympathetic way in which you deal with all matters brought to your attention, for which please accept my thanks.

I have the honour to be,

Ladies and Gentlemen,

Your obedient Servant,

T. DUNLOP.

MEDICAL INSPECTION & TREATMENT
OF THE
ELEMENTARY SCHOOL CHILDREN
1927.

The School Medical Officer.

Torquay.

SIR,

I have the honour to submit the TWENTIETH ANNUAL REPORT on the Medical Inspection and Treatment of the Elementary School Children.

I. Staff.

The staff which is detailed at the beginning of the Report has remained unaltered during the year.

II. Co-ordination.

The arrangements for the co-ordination of the work of the School Medical Service with that of the Health Department are very complete, and considerable advantages accrue from such a satisfactory state. The same Medical Officer who carries out the routine school work attends the Maternity and Child Welfare Centres, and it is found that this is very useful, for the one doctor supervises the health of the children from birth right through to school leaving age. By getting to know more thoroughly the parents, who often have children at School as well as infants attending the Welfare Centres, it is frequently easy to get incipient defects remedied in the child of pre-school age so that he may start school without any handicap: and this is especially important where the children are not sent to school until five years of age. Mothers sometimes get to appreciate the early signs of defects, for example, of enlarged tonsils and adenoids, and come to the Welfare for advice because the elder brother or sister at school has been successfully treated.

All the clinic and other treatment facilities are available for the pre-school child. In 1927 six tonsil and adenoid cases were thus treated by operation in children not at school under five; 14 early squint and other eye cases were referred to the school clinic for treatment, which was satisfactorily obtained, glasses being ordered in four of these; 15 otorrhœa cases were cured at the clinic, and three children with rickets and four with slight talipes and infantile paralysis referred for treatment. Many minor ailment cases were treated at the clinic and in all 213 babies and young children made 542 attendances.

Further, the extension is now available of the facilities of the school dental service to include the inspection and treatment of the pre-school child, and this will be of considerable benefit. It is hoped to try and get each case attending the infant welfares to come to the dental surgeon for inspection, and treatment, if necessary, as early as possible in the child's life; and to return for periodical re-examination before reaching school age. This should prove invaluable in attacking at its beginnings the problem of dental disease.

In addition, the Health Visitor gives most valuable information about many cases, especially those which do not come to an Infant Welfare, as they approach school age; and as she attends the Welfares each week at the same time as the Medical Officer, he is kept in constant touch with a very large number of pre-school children, especially the defective cases.

It is through the kind co-operation of the Education and the Maternity and Child Welfare Committees that this is possible, and I am convinced that it affords a striking testimony to the efficacy of co-ordinated effort—such as is by no means always attained—with obvious benefit to the child.

III. The School Medical Service in relation to Public Elementary Schools.

Several improvements in the school buildings have been effected during the past year.

Complete reconstruction of the drainage system has been carried out at Cockington School and at Abbey Road School;

and the new arrangement of screening the offices at Cockington will allow the substitution of ordinary glass for the glazed variety in the windows; with consequent better lighting of the classrooms.

The radical structural improvements at St. Marychurch Junior School were completed earlier in the year; and a new system of heating installed. The new classrooms are excellent and the building has been brought up to modern requirements; and great credit is due to the Managers for this well-advised and most beneficial advance in the environmental conditions of the school.

The new school at Westhill was completed and opened by the President of the Board of Education in May. The accommodation provided is as follows:—

SENIOR BLOCK. Assembly Hall; seven classrooms; two cloakrooms; headmaster's room; two staffrooms with cloakrooms, lavatory, etc.; practical instruction room; medical inspection room; stock room; heating chamber.

JUNIOR BLOCK. Assembly Hall; eight classrooms; two cloakrooms; two staffrooms with cloakroom, lavatory, etc.; dining room, stock room, heating chamber.

The site provides for a school of 620 children, 300 in the senior department and 320 in the junior; and the school has three noted characteristics in the way of ventilation, lighting and heating. The classrooms have two sides capable of being thrown open their full length: and these sides are provided with doors which allow of various adjustments being made, for either the whole side can be opened, or the doors closed and the top half of each lowered, or the doors shut with the top half falling to an extent of 4 inches to provide a hopper. These adjustments can be varied according to the weather and the amount of wind; and in all cases provide a thorough cross ventilation which is perfectly satisfactory, as will be seen from the results of the experiments with the kata-thermometer, detailed in Appendix A.

For lighting, care has been taken to protect the eyes from glare and the light is admitted through a large continuous skylight at an angle of 60 deg., and facing towards the north.

This gives a steady uniform light about three times the amount usually obtained by ordinary windows. The heating is maintained by pipes placed in trenches under the floor and covered with concrete and "Granwood" blocks; the floor temperature is kept at about 70 deg. F., and is found very satisfactory.

In this way, by keeping the feet warm and by allowing a free circulation of air to stimulate the rest of the body and keep the head cool, the requirements of modern physiology are properly fulfilled.

With the opening of this school, the condemned schools of St. Marychurch Girls' and Infants', and Hele, were discontinued.

At Upton C.E. School a new system of heating has been installed on the principle of electrical tubular heating; and as the ventilation of this school was brought up-to-date two years ago, it must be very gratifying to the Managers to know that they have successfully achieved such striking improvements in two most essential features of school hygiene.

The great and beneficial alterations at Priory R.C. School are dealt with in Appendix A, in connection with the subject of ventilation. In that Appendix there is also considered the need for improvements at Ellacombe Infants' School, and the attention of the Managers concerned is directed to this.

It may be urged that some of these are minor matters of little consequence, but the reverse is manifestly the case, and I cannot too strongly impress on the Authorities that the hygiene of the school building is of the most far-reaching and deep significance: for not only does it react so sharply on the health of the individual, but it should be in itself an education for the pupils, making for better conditions in the homes, which these children are, after all, one day destined to control.

MEALS.—Arrangements for warming up meals brought to school by the children and the service of meals are in satisfactory operation at several schools—Upton, Westhill, St. Marychurch, Tor, Priory R.C., and Madrepore Road—where a number of children stay for dinner. The necessary provision is made of means for warming up the food, and as a

rule individual tables are laid ; and advantage is taken by those teachers who also remain to supervise the children and ensure a proper regulation of the whole meal so as to make it of definite educative value.

In addition, in certain of the Junior Departments, a rest is included after the dinner for the younger children ; and this is of considerable importance in maintaining health.

The New Housing Scheme, by which many families have been placed in the Barton and Hele districts, has been partly responsible for the increased numbers of children staying for dinner ; but as a New School is now being started in this area, the problem will solve itself.

IV. Medical Inspection.

Routine medical inspection and the inspection of special children brought forward by the Head Teachers is carried out in the school premises, and owing to limited accommodation in certain schools, at the St. Marychurch Town Hall and at the school clinic. An inspection clinic is held on four mornings at the school clinic, and to this the children are referred by the school nurse, teachers, attendance officers and parents.

(a). *Age Groups.*

Three groups of children were inspected during the year, viz. :—entrants, children between eight and ten years of age, together with children between twelve and thirteen years of age and all who had not been examined after reaching the age of twelve. A number of other ages who were presented for various reasons were also examined as ' codes.'

The total number of children examined during the past year was 1389, as compared with 1379 in the previous year.

(The statistical particulars are to be found in Table I. at the end of the report.)

(b). *Extent to which the Board's schedule of Medical Inspection has not been followed and the reasons for such departure.*

The Board's schedule of Medical Inspection has been followed.

(c). *Steps taken to secure the early ascertainment of crippling defects.*

All children who are suffering from chronic illness or who are away from school for three months are examined by the Medical Officer at the Inspection Clinic at least once a year and many of these children are seen each month. A record is kept of their defects from which a list of all crippled children not in attendance at school was made.

The total number of crippled children in Torquay is 61. Of these, six were due to tuberculosis, 16 to infantile paralysis, three to rickets, 19 to congenital deformity and trauma, 12 to cardiac disease, four to epilepsy, and one to diabetes. It should be understood that only very severe cases of cardiac disease are counted as cripples.

Of the 61 cases, 44 were in attendance at the open-air school or the ordinary elementary schools, and 17 were considered to be unfit for school at present.

(d). *Statement showing the extent to which disturbance of school arrangements was involved by the inspections.*

Each child when inspected is withdrawn from school for about half-an-hour, and when reinspected for not more than a few minutes.

V. Findings of Medical Inspection.

(a). *Uncleanliness.*

Definite cases of uncleanliness of the head numbered 54 (3.9%), and 29 children (2.1%) showed evidence of flea bites.

This is very satisfactory, and is due to the persistent work of the school nurse in following up resistant cases; many parents have been advised to buy one of the special combs for nits, and the result in each case has been most gratifying. The general cleanliness is very good; in certain schools cleanliness parades are held, and on one morning finger nails are seen, on another boots, and so on, and each is a surprise inspection, so that the children do not know which is coming. And it must be gratifying for the teachers (who

are a most important factor in ensuring these better standards of cleanliness) to notice the improvement, which has doubtless been brought about during the present century.

(b). *Clothing.*

The clothing is on the whole good, both in quality and in repair; one child had defective footgear.

It is gratifying to notice that at many of the schools the tone of the children has markedly improved; and the wearing of caps and school colours has tended to make them take a much keener interest in their personal appearance. Many of the girls wear the gymnastic tunic, etc., such as the Secondary School pupils wear, and for these admirable innovations the teachers are to be highly congratulated.

(c). *Nutrition.*

Of the 1389 children examined, 168 (12.1%) were more or less below normal; and of the latter, 12 required to be referred for treatment. Three specials suffering from malnutrition were also referred for treatment. In the majority of these cases, the children are sent to the Open-Air School, where the effect of the treatment on their nutrition is magnificent.

(d). *Minor Ailments.*

Minor ailments of skin, eye, ear, etc., are included under the appropriate headings.

(e). *Tonsils and Adenoids.*

On routine inspection 36 children were found to have slight defect of the nose and throat, but these were not sufficiently serious to warrant treatment. In addition, there were 98 cases that were referred for treatment. There were also 59 cases referred for treatment who were discovered at the inspection clinic or amongst the special children; and 154 cases of tonsillitis, etc., were referred for treatment as specials.

(f). *Tuberculosis.*

Five cases of pulmonary tuberculosis were found on routine inspection, and 23 cases of suspected phthisis discovered. There were four cases of non-pulmonary tuberculosis.

(g). *Skin Disease.*

There were 17 cases of skin disease found on routine inspection, all of which were referred for treatment. In addition, 275 special cases were referred for treatment.

(h). *External Eye Disease.*

Sixteen cases of external eye disease were found on routine inspection. Eleven of these and 101 special cases were referred for treatment.

(i). *Vision.*

Of the routine cases 44 were referred for treatment and 17 kept under observation. In addition, 75 special cases were referred for treatment.

(j). *Ear Disease and Hearing.*

Four cases of ear disease and 12 of defective hearing were discovered on routine inspection; all were referred for treatment. There were also 88 special cases referred for treatment.

(k). *Dental Defects.*

In the course of routine inspection 605 children (43.6%) were found with from one to four carious teeth, and 140 (10.1%) had more than five teeth defective. Of these, nine were referred for immediate treatment, together with 12 specials.

Further details of the dental defects are found in the Report of the Dental Surgeon on p. 35.

(l). *Crippling Defects.*

One case of congenital defect was found; but in all 28 children were found with pigeon chests, slight spinal curvature and other postural defects. In 25 of these was treatment necessary, while three were kept under observation.

VI. Infectious Disease.

With a view to the earliest possible recognition of infectious diseases the teachers are asked to report to the Medical Officer when any suspicious case is found. The teachers are now well acquainted with the initial symptoms and prodroma of the commoner illnesses of childhood, and consequently are very prompt in sending word to the Health Department. All cases of sore throat are sent to the clinic and many suspicious throats are swabbed: and 154 such cases were seen at the clinic.

The sharp epidemic of influenza throughout the country in the early months of the year affected the schools. Cockington School was closed on this account for two weeks in January, and Homelands Infants' for two weeks in February; while St. James' School was closed for four days in January owing to the illness affecting practically every member of the staff.

During the year there were 32 cases of Scarlet Fever, with no deaths, and five cases of Diphtheria with one death.

Vaccination. In view of the continued prevalence of small-pox in other areas of the country, a careful record was made of all children showing evidence of successful vaccination; of the 1389 children examined 420 (30%) had satisfactory marks. This is a serious state and calls for consideration. We often hear it said that if we only knew of an absolute prevention or cure for a dread disease like cancer, how much benefit would be bestowed on the community; Jenner many years ago gave us the absolute preventive measure for another dread disease, small-pox, and yet the majority of parents despise and reject it. And the cynic might rightly ask if we deserve any further great discoveries.

VII. Following-up.

Review of the arrangements for the following-up of children suffering from physical defects, including a summary of the work undertaken by the Nurse.

Children who are found to be suffering from defects requiring treatment are notified to the parents at the time of

inspection, and all cases, whether for treatment or observation are entered on special defect cards and so automatically come up for re-examination at the next visit of the Medical Officer. In addition, defective children are re-examined by the Medical Officer one month and three months after the original examination. If no treatment has been carried out, the second notice is sent and the nurse visits the parents and impresses on them the importance of securing treatment. This is usually sufficient, and few cases escape the proper therapeutic or remedial measures.

Frequently if the parent is not present at the first examination, the nurse visits the home immediately afterwards to explain the treatment, as it is found that a few explanatory words will secure what the forms (to many parents a mere unconvincing statement of facts) fail to do.

In addition the school nurse attends school medical inspections, approximately four sessions a week, and minor ailment clinics six half days: and she is present with the ophthalmic surgeon at the eye clinic on Thursday afternoons.

During 1927, the School Nurse paid 93 visits to schools, and examined 5392 children, finding 110 unclean; and she also paid 747 visits to homes.

VIII. Medical Treatment.

The treatment of minor ailments (External Eye Disease, Skin Diseases, Otorrhœa, Septic Sores, Cuts and Burns), is carried out at the School Clinic at 15 Castle Road. The Medical Department is open for treatment on Tuesday, Wednesday, Thursday, and Saturday mornings, and on Monday and Friday afternoons (when the nurse only attends).

No charge is made for treatment, but in some cases where the parents are able to pay, a modified charge is made for the supply of medicine or medical stores; and a box for voluntary contributions is placed in the waiting room. The total sum collected in this box at the Clinic during 1927 was £2 11s. 3d.

In certain cases where parents are unable to provide the necessary treatment, assistance was given by the provision of Cod Liver Oil Emulsion, or Malt, etc. 35 cases received this free of cost, while 70 paid part or whole cost, in all £8 16s. 4d.

The following are the clinic totals for the year :—

	No. of cases.	No of attendances.
Medical Examinations	1829	3256
Dressings, Treatments, etc.	2047	7339

(a). *Minor Ailments and Injuries.*

842 cases were treated for septic sores, cuts, chilblains and similar things. It is true that many of the defects are comparatively slight, but adequate treatment is none the less necessary to prevent more serious complications; and this goes far to reduce absences at school by treating the *early* stages of the trouble.

It is appropriate here to refer to the very great help which is obtained from the Electrical Department of the Torbay Hospital, under Dr. John Halliwell, Hon. Radiologist. During the year every case of serious injury to bone or joint has been referred for X-rays, while other children were also sent for various reasons; and the excellent work of Dr. Halliwell has been of considerable assistance.

(b). *Tonsils and Adenoids.*

All children unable to obtain private treatment and requiring the removal of enlarged or diseased tonsils and adenoids are referred to the Throat and Nose Department of the Torbay Hospital. The majority of the necessary "recommendations" are obtained through the auspices of the King Edward Cot League, to which the children themselves are the subscribers. Over and above these, a small number is provided by the Authority at a nominal charge of 5s. each.

During 1927, 149 cases were thus referred for treatment and 102 have been operated on at the Torbay Hospital; four have been operated on privately.

The operations at the Torbay Hospital are done by the Honorary Aural Surgeon, Mr. T. G. Fenton, F.R.C.S.; and to him and the staff must acknowledgement here be made for the very great interest which is taken in all the school children.

No case referred to the Hospital has been refused operation, and in one or two instances the operations have been most kindly expedited, where for various reasons this was desirable. This has gone far to take away any undue fear of operation by the parents: and the extremely good results obtained have done much to convince parents that the operation is removing a severe handicap from the child—restoring for nasal obstruction clear air passages, for narrow and pigeon chests, full lung expansion, for a mucus-laden stomach a keen and healthy appetite, for general debility some fuller measure of well-balanced physique.

But there is one point to which it is my duty to refer, and that is the desirability (and, in some children, urgent necessity), of keeping cases overnight in an institution. The operation of tonsils and adenoids is not free from dangers, and there is a large raw area left, to which organisms have free access: and though rare, secondary hæmorrhage and other untoward complications are not unknown sequelæ.

Moreover, a hospital is, as it were a surgeon's work-place, and operation cases are taken as an everyday occurrence: but this is far from being the same to the mother, to whom the operation is a portentous anxious event, and to whom a child after the operation is far from being in every case a matter free from alarm. It is not always within the ability of the busy mother to care for correctly the post-operative vomiting or other unpleasantness: while the return of a child a few hours after the operation to a crowded, frequently unhygienic dwelling is most undesirable.

I am therefore most emphatically of opinion that no Authority can be satisfied that any arrangements are ideal which do not allow for the provision in all cases of the very best institutional after-care for at least 24 hours. Possibly this may be secured when the new hospital is erected.

After operation all cases are seen by the Medical Officer, and instructions given for breathing exercises and other necessary points; and some other cases are kept under continual observation until the anæmic and debilitated condition, brought about by the tonsils and adenoids before removal, is quite restored to normal.

(c). *Tuberculosis.*

All cases of definite or suspected tuberculosis are referred to the County Tuberculosis Officer for his opinion, advice and subsequent observation, if required.

The Tuberculosis Officer supplies the names of all children found to be living in houses where there is a recognised case of phthisis, and all such children are entered on special cards for observation; 95 children in this category were examined from time to time during the year.

(d). *Skin Disease.*

279 cases of skin disease, as compared with 222 last year, were treated at the clinic.

Ringworm cases numbered 18 and in six of these the scalp was affected; all these children were treated by drugs as apart from X-Rays, but arrangements are made with the Honorary Radiologist at the Torbay Hospital to supply this latter treatment if necessary. All cases of any doubt are confirmed by microscopic examination of the hairs, and observation is continued for some weeks after all trace of the fungus has disappeared. Children with ringworm are allowed to attend school, but wear washable caps or bonnets provided by the Authority; and this arrangement does not seem in any way to cause the slightest spread of the disease, although the children continue their education uninterrupted.

Scabies cases remain fortunately few, and only three were treated.

(e). *External Eye Disease.*

61 cases of blepharitis and conjunctivitis received Clinic treatment during the year, compared with 46 last year.

(f). *Vision.*

138 cases were refracted during the year at the clinic and 95 have obtained glasses out of 122 for whom spectacles were prescribed; some who are counted as having not yet obtained glasses were of course refracted late in the year and have not yet been examined again by the Medical Officer. Four cases

received private treatment and obtained glasses. Forty-one other defects were dealt with at the Eye Clinic and one was treated at hospital and elsewhere : while during the year five cases were submitted to operation.

During the year an endeavour has been made to keep all cases of defective vision under continuous observation, and re-examinations of such children were frequently made.

For further details, reference may be made to the report of the School Ophthalmic Surgeon on page 33.

(g). *Ear Disease and Hearing.*

The number of ear defects treated was 91, of which 52 were cases of otorrhœa (discharging ears) and 39 deafness without discharge. Seven others received private treatment.

(h). *Dental Defects.*

For the treatment of these defects, reference may be made to the report by the School Dental Surgeon on page 35.

(i). *Crippling Defects.*

All crippled children are kept under careful supervision. Many of these children must wear special boots and supporting irons, and the provision, repair and renewal of these entail a very considerable expenditure throughout life.

For some years past, the Education Authority has adopted the excellent policy of sending crippled cases to special hospitals so that the necessary adequate measures for successful treatment may be obtained. Children have been sent to London, Bristol, Alton and other centres ; and it is gratifying and satisfactory to record that up to the middle of the year, just before the new scheme came into operation, there was not a crippled child requiring treatment (except two whose parents objected) that had not been seen and treated. A great deal of the credit is due to the excellent results obtained by Mr. Hubert Chitty, M.S., F.R.C.S., at the Bristol Hospital for Children ; and the great interest he showed to the Torquay cases is here acknowledged with much gratitude.

During the year the full and comprehensive orthopædic scheme for the whole County of Devon has been inaugurated; and the Torquay Authority welcomed the opportunity to co-operate in such an essential and useful endeavour. The School Clinic premises are used as the local orthopædic centre one half-day a week; and the Surgeon from Exeter, Mr. Brennan Dyball, F.R.C.S., visits this clinic once a month. The first clinic was held in October, and the new central Hospital near Exeter was opened in November.

It is to be hoped that by the early ascertainment, by prompt and adequate treatment, and by continuous supervision and after-care, the problem of the crippled child will gradually become less urgent than it now is. Crippling is for the most part preventable, and by these schemes for crippled children, now coming into operation throughout the country, the day must surely be nearer when crutches and irons, walking calipers and splints, will lie as rusty relics on the walls of our museums.

(j). *Dull and Backward Children.*

No definite provision is made for these children, and the institution of some special difficult classes is urgently needed. The general education scheme must fail in a few exceptions and certainly these misfits need some consideration: special and individual tuition will do a great deal towards fitting the dull and backward child for filling some place in the broad scheme of life. Each individual cannot have ten talents and be a brilliant academic scholar, a worthy return financially for the money expended on his education: but it should be possible—and it is a definite duty—to see that each individual gets a chance to do what best lies in his capacity. The claims of the dull and backward should need no eloquent advocate to plead before those who are more fortunately endowed: and it is urgently recommended that in schemes of future development, these classes will be favourably considered.

SUMMARY OF WORK AT SCHOOL CLINIC DURING 1927.

Disease or Defect.	Medical Exams.		Dressings, etc.	
	Individ- ual cases.	Visits.	Individ- ual cases.	Visits.
Uncleanliness—Head	4	6	3	11
Skin—Ringworm	18	45	15	31
Scabies	3	7	1	2
Impetigo	139	238	316	969
Others (non-tuberculous) ...	116	230	145	376
Defective Eye Conditions	178	256	109	453
Defective Hearing	36	71	28	43
Otitis Media	52	106	78	564
Enlarged Tonsils and Adenoids ...	65	80	1	1
Tonsillitis, etc.	154	313	60	88
Enlarged Cervical Glands	49	116	18	25
Heart Disease and Anæmia	28	57	—	—
Lungs—Bronchitis	51	102	—	—
Others (non-tuberculous)...	—	—	—	—
Tuberculosis—Pulmonary				
Definite	3	9	—	—
Suspected	25	56	—	—
Non-Pulmonary	3	3	—	—
Nervous System	14	22	—	—
Rickets	3	9	—	—
Deformities	10	23	—	—
Minor Injuries and Septic Sores ...	481	835	1124	4205
Infectious Diseases	58	99	9	9
Miscellaneous	339	573	103	152
Amblyoscope Exercises	—	—	15	331
Preparation for Refraction...	—	—	22	79
Total	1829	3256	2047	7339

IX. Open-Air Education.

The year at the Open-Air School has been one of steady and most satisfactory work; and the striking results which are obtained are in great measure due to the untiring zeal and enthusiasm of the whole staff, who do everything possible for the benefit of each individual child.

During the summer a complete set of baths, including shower baths, was installed at the school; and an independent heating apparatus added. This is a vast improvement on the previous method of using the baths in the adjoining premises; and the new arrangement has considerably helped both the staff in carrying out the work, and the children in receiving the maximum benefit from this essential part of the whole scheme.

Nearly every child does extremely well at the school. But excellent as are the results, marked as is the improvement of each case, splendid as are the benefits derived from a stay at this school, there is still a danger that the full value may be lost in certain cases; for unless and until the full co-operation of the parent and child is obtained, the result may not be lasting, the improvement only temporary, the benefit but evanescent. There is still in a few minds an opinion that this institution is a sort of infirmary, a kind of permanent pleasing abode for children who cannot progress satisfactorily at the ordinary school. And it cannot be emphasised too much that the object is not merely to give the child a special chance to *get* well, but—more important still—to teach him how to *keep* well by the observance and practice of a hygienic way of life.

Every six months, a kind of "Parents' Day" is held at the school, and some attempt is made to show the parents the régime of the institution and the type of work carried out; in addition, on each of these occasions I give a short address on the different aims and objectives of open-air education, with special reference to the co-operation needed. The school can never take the place of a parent, and each must play a part in trying to instil into the child how to live a health;

life, how to make the best use of the opportunity when at the Open-Air School. And, after all, opportunity once past has a bare back.

It is pleasing to record that between 100 and 120 parents and friends attended these functions, and it is to be hoped that the work will gradually become correctly understood, properly valued and utilised; for then, and not till then, will the maximum efficiency be obtained. And reference may again be made to a brief survey of the nature and aims of this institution.

"It is necessary to mention that the method of the Open-Air School is of the nature of a process. It is not merely a school in the open air. It comprises a way of life and a system both of education and medical treatment." So wrote Sir George Newman, and in this comprehensive system the following are the characteristic features :—

(a). *Fresh Air and Sunshine.*

Here the Torquay children are most fortunate in that the equable climate allows them to be out in the actual open air (as distinct from the class rooms) on many more occasions than in other towns. The high cooling powers stimulate metabolism and increase the general tone and well-being of the body. Further, the large amount of sunshine, with its ultra-violet rays, the all but complete absence of mist and no fog are most beneficial to health. It is interesting to notice that no artificial heat has been required in any of the class-rooms or rest sheds.

(b). *A Proper and Sufficient Diet.*

The food at the school is carefully supervised and the diet was drawn up in strict accordance with the requirements of the growing child; and it is to be noticed that the milk supplied is all Grade A (Tuberculosis free)—a most important factor in the case of delicate children. It is found that the diet is most suitable, and many children who according to their mothers "only picked at their food," who only ate this or that as it pleased them, after a short stay are found to take with enjoyment and relish everything as it comes (and it is merely necessary to be present at their meals to appreciate this fact).

(c). *Rest.*

"Rest is the necessary antecedent to the healthy accomplishment of both repair and growth": so wrote John Hilton in 1860, and at the Open-Air School a definite period of $1\frac{1}{2}$ hours (one hour in Winter owing to earlier dusk) is spent in the recumbent position in the middle of the day. Nearly every child sleeps throughout that time.

(d). *The Hygienic Way of Life.*

An attempt is made to teach the *practice* of personal and general hygiene as part of the daily rule: one ounce of practice is worth a pound of precept, and the benefits this confers are indeed far-reaching. This section includes attention to general nutrition, rest, cleanliness, exercise—the latter comprising physical training, games and recreative exercises; and can anything be more important than the *practice* of a healthy way of living?

(e). *Individual Attention.*

This is secured for both body and mind, and it is obvious that delicate children frequently need a modified curriculum in not only physical, but also mental education. The drawback of many educational methods is the fact that a system treats all pupils alike, but the open-air school is laid out and planned especially to treat and consider *individual* children.

(f). *Medical Treatment.*

The Medical Officer visits this school every week, and major and minor defects are sought for and treated where possible. The endeavour is on every occasion to remove some of the handicap—whether it be adenoids, carious teeth, bad eyesight, overstrain, or anæmia, etc.—which is operating against the satisfactory progress of the child.

(g). *Special Educational Methods.*

At an open-air school the aim is to make education more objective, more manual, more the individual expression of the child's capacity for doing and making. Ordinary elementary

subjects are worked out and developed on motor and sensory lines, and a prominent place is given to physical training, nature study, gardening, and handicraft classes.

The children in attendance are suffering from the following diseases or conditions:—

- i. General debility, anæmia, insufficient or incorrect feeding, etc.
- ii. "Pretuberculous"; contacts of phthisical cases.
- iii. Surgical tuberculosis (quiescent).
- iv. Crippling conditions (non-tuberculous); old infantile paralysis.
- v. Heart disease, chorea.

Rheumatic Heart Disease.

Special mention may here be made of rheumatic infection in children, as the attempt is made to give all such cases the benefits of open-air education in this mild climate.

In accordance with the suggestion of the Board of Education a register of all these children is kept, and each case is studied individually and placed under strict observation; this is very conveniently done at the Open-Air School. Further, all the parents of such children have been seen and advised as to the kind of life these cases should lead, with special reference to sleep, rest, diet, regulated exercise, fresh air and the early symptoms of any further trouble. On very wet days the children are kept at home (although this is fortunately not often necessary), and on the first manifestation of any active recrudescence of the disease, rest and medical treatment are strongly advised. Appropriate treatment for any focal infection in the tonsils or teeth is obtained whenever possible.

The diet—with its abundance of milk, etc.—at the open-air school must help to combat wrong feeding and the accompanying predisposition: while the rest and regulated exercise teach the patient how to regulate the work to the damaged heart, as well as tending to avoid overstrain and its unfortunate results.

X. Physical Training.

There is no organiser of physical training in the elementary schools, and the teachers themselves carry out the work according to the usual syllabus. Approximately one hour a week in school is devoted to this section of the curriculum, and a varying amount of outdoor games played in addition. As year succeeds year, there is an apparent movement and desire to take a wider view of this subject and, as a Memorandum on Physical Education put it, "to encourage the development of a new orientation of the school towards the physical side of child life."

The teachers are enthusiastic and in addition to the league games for cricket, football, netball and the like, efforts are very worthily made to encourage those who are not the picked representatives of their school. The object should be not the production of expert cricketers or footballers, but to give all pupils something of the tremendous advantages of games.

It is satisfactory to record that the provision of new playing fields for the elementary school children is now receiving the consideration of the Local Authority.

During the year, rowing has been continued satisfactorily. In 1925 the Board of Education sanctioned rowing out-of-school hours under conditions the chief of which are:—

1. The boys must be carefully selected, so as to ensure that they are physically fit for the exercise.
2. Each boy must be able to swim. Mere ability to keep afloat will not be sufficient, but the test must include swimming strongly with the breast stroke for some distance.
3. No serious racing or speed tests must be allowed for the boys.

The boys attended on three evenings a week, under the instruction of members of the Rowing Club.

The selection and medical supervision were carried out by me; and some 81 boys were examined and kept under observation. Time has not permitted the repetition of the empirical tests (the Air Force Tests of Martin Flack modified for schoolboys by J. G. Woolham), which were recorded in 1925; but the clinical tests showed that no harm was done by the rowing, but rather that physical fitness was increased by it.

Certainly the boys enjoyed it, and, besides being an additional incentive to learn to swim, it affords more seriously, a very practical example of unselfish co-operation and esprit-de-corps. In no other sport is it more true than in rowing that no member of a crew can be brilliant at the expense of his fellows and that each must do his fair and full share unselfishly. And those who have, at school or university, handled an oar, however imperfectly, will know the value of such training, moral as well as physical, as, for example, the Cam or the Isis can give.

XI. Provision of Meals.

Meals are supplied, as has been described, at the open-air school (at a varying nominal cost according to the circumstances of the case), but no further provision has been required.

XII. School Baths.

A set of baths is available for the children at the Open-Air School, and the bath is looked upon as a definite part of the routine, being greatly appreciated.

The Oddicombe Swimming Club reports that during the past summer about 106 boys and girls were given instruction in swimming and that 55 learnt to swim. These scholars received instruction at the close of school once or twice a week from the Club's Instructors.

At the Tor Abbey Sands, children accompanied by teachers, attended every evening, two large tents being placed at their disposal, one for boys and one for girls. It is not possible to give the numbers who learned to swim on this beach. Certain difficulties were encountered and arrangements are now being considered to try and improve the conditions.

It is unfortunate and regrettable that the Torquay Leander Swimming and Life-Saving Society were unable to continue the instruction to school children as in previous years, for the help of this Society has hitherto been invaluable. The Society is definitely of opinion that the teaching of school children could not adequately be undertaken in other than the Baths, and they were not prepared to undertake the work on the various beaches. And there is much to be said for this opinion.

There is no doubt that the teaching of swimming should be placed on a proper basis by the Authorities concerned, and in a Town which possesses both excellent Municipal Baths and adequate beaches there can be no plea of lack of facilities. In a seaside resort especially, swimming should ultimately find a prominent place in the broad scheme which must eventually be practised; for a child's education cannot be considered complete unless he has had—and utilised—the facilities for learning such an essential accomplishment as swimming.

XIII. Co-operation of Parents.

Parents are specially requested to be present at the examination of their children, and in the past year 678 (49%) of the scholars examined were attended by parent or guardian. Nearly every case coming to the clinic is attended by a parent: and where a parent is unable to come, it is by no means infrequent to find a neighbour coming so as to take back to the parent all the necessary information. This is very gratifying, and many of the parents value the work done, often remarking that they wished it had been available in their school days, because they find it such a benefit to their child.

Further, several parents, knowing that their children had been absent during the routine examination of the school, have brought them to the clinic and asked if the child might be examined as a "routine" case: this request is always complied with and helps considerably to stop the leakage of missed routine examinations. Altogether it is self-evident that parents are now taking a real interest in *preventing* disease and establishing good health in their children.

XIV, XV, XVI. Co-operation of Teachers, School Attendance Officers and Voluntary Bodies.

The co-operation of all three sections is greatly appreciated by the Medical Department: the help of the teachers is a great assistance to the successful work of the School Medical Service, and the extra time and labour involved by the inspection and treatment of the children is most willingly undertaken. And I have to express my indebtedness to many of the teachers who have so kindly afforded me every possible facility in the experiments which I have been carrying out, or on the other investigations in which I have been engaged.

Many cases of prolonged absence due to illness are reported by school attendance officers to the medical department and this is frequently the means of ensuring early and adequate treatment. The N.S.P.C.C. gives most valuable help through the local inspector (Mr. K. C. Brooks), who calls at the clinic every week, and is always ready to investigate and supervise any cases of neglect or ill-treatment. In 1927, eight cases were investigated in this way.

XVII. Blind, Deaf, Defective and Epileptic Children.

- (a). *Review of the methods adopted for ascertaining and dealing with children who are defective within the meaning of Part V. of the Education Act, 1921, and of the adequacy of such methods.*

The Head Teachers, School Attendance Officers, School Nurse, parents, and voluntary bodies bring to the notice of the Medical Officer any cases thought to be specially defective under this heading, while the Health Visitor brings information of children under school age, so that they can be dealt with at the earliest opportunity.

- (b). *Statement of the arrangements made for the supervision of mentally defective children not in Special Schools.*

Every effort is made to try and get each mentally defective child to a special school: in the cases where the parents refuse,

the home is visited by the School Nurse every two months, and, after they pass out of the school medical survey, the local voluntary association for the care of mentally defectives supervise the cases. The few children not in special schools at present are in good homes and very well cared for.

- (c). *General review of the work of the Authority's Special Schools during the year, including a statement of the arrangements made for after-care, and a summary of the records of the after-careers of the children.*

There are no special schools in Torquay for blind, deaf and epileptic children. In those cases which have been at special schools elsewhere every effort is made to try and persuade parents to obtain whatever occupation is specially suitable for the individual; and, if home conditions are poor, institutional occupation is strongly advised. One case of a deaf girl left the special school at the end of the year on reaching 16 years of age; and one case of an imbecile girl was notified during the year to the Local Control Authority.

The record of the epileptic cases sent by this Authority to special Institutions has not been very encouraging; as it has usually been found that these cases fail to reach adult age. Of the nine who have been sent at various times since 1909 to institutions, no fewer than six are dead, having died at the institutions or shortly after leaving them.

XXII. Special Inquiries.

During 1927, assistance has been given to the concerted line of research organised by the Board of Education as an enquiry into the Health of Young Children in attendance at School.

In addition, further work has been carried out by me on :—

- (1) *The Ventilation of Schools* (Appendix A), which is a continuation of the work carried out in 1924, 1925, 1926.

- (2). *The Measurement of the Ultra-Violet Rays in the Atmosphere* (Appendix B). This has been done under the direction of Prof. Leonard Hill, of the National Institute for Medical Research, London.
- (3). *The Assessment of Physical Fitness* (Appendix C). In connection with this, I acknowledge with thanks very valuable criticism from Dr. F. W. Lamb, Reader of Physiology, University of Manchester, and Dr. J. Gilbert Woolham, Assistant S.M.O., Manchester.

I have the honour to be,

Sir,

Your obedient Servant,

J. V. A. SIMPSON,

Assistant Medical Officer.

REPORT OF THE OPHTHALMIC SURGEON.

*The School Medical Officer,
Torquay.*

SIR,

The general arrangements which have been previously detailed in my Reports remain unaltered, as they appear to be entirely satisfactory and are working well.

During the year the following cases were treated :—

Total number of individual children	271
Total number of attendances	637

The time is not very far past when many people refused to have their eyes tested and to wear glasses owing to the widespread conception that wearing glasses “weakened” the eyesight; and in consequence a number of cases occur now among adults where the individual has markedly defective vision, resulting in much more difficulty and hardship than would have been the case with earlier treatment. Fortunately with increasing education and the concomitant removal of ignorant ideas, there is a greater desire on the part of parents to obtain glasses for their children; and the accumulating results of school medical work show the undoubted benefit of this.

Testing of vision, refraction, prescription of glasses, checking glasses, all these are only part of the essential scheme; for the correct wearing of the glasses, and repeated re-examination with alteration in the lenses if and as required, are necessary corollaries. And this is especially needed in the child and adolescent in whom the eye is going through a series of changes concurrent with general growth, and in whom the eye is often subjected to considerable strain with study. With the regular following-up and re-examination of children with defective vision, it is seen that the results are as a rule very good; and far from “weakening” the eyes, the vision has definitely improved. These records of systematic school work, such as we are now accumulating, should go far to convince parents to bring their children for early treatment, and to encourage those cases requiring glasses to persevere in wearing the glasses regularly in the way prescribed.

It is encouraging to report that the very full co-operation between the Maternity and Child Welfare Centres and the School Medical Department continues to bear good results: 14 cases of eye defect and early squints in children below school age were seen, and in four of these, glasses were prescribed and obtained. This early treatment is most satisfactory and in several of the squinting cases the eyes are now straight.

Fusion training, in the case of squints, is being continued by means of the amblyoscope: and these exercises are carried out by the children on regular days under the supervision of the nurse at the clinic. In 1927 fifteen of these cases made 331 attendances.

During the year operative treatment was carried out by me at the Torbay Hospital in five cases; of these operations, three were for strabismus, one was for ptosis, and one for cysts.

Further, four cases of congenital syphilis were sent to Exeter for specialist treatment.

I have the honour to be,

Sir,

Your obedient Servant,

DAVID WILSON.

December, 1927.

REPORT OF THE SCHOOL DENTAL SURGEON.

The School Medical Officer,

Torquay.

SIR,

During the year 1927, the following work has been carried out.

INSPECTIONS :

Total, 2,879. Routine, 2,286 ; and Casual, 593

The Routine Inspections comprised 1,671 in Elementary and 615 in Secondary Schools. Ten per cent. of the children were found to have sound teeth. The average number inspected per session was 92, and this could only have been attained by the assistance of the teachers keeping me supplied with children.

TREATMENT :

Extractions—Permanent Teeth, 233. Temporary Teeth, 1,979.

Of the permanent extractions 152 were for elementary scholars and 81 for secondary. It was necessary to remove 25 teeth for regulation purposes ; and a few cases are still under observation.

FILLINGS :

Permanent Teeth, 2,206. Temporary, 143.

Although I thoroughly believe in the principle of filling temporary teeth, time does not permit, so that I have had to concentrate on permanent dentition which is of more lasting value. In 1,025 instances, owing to the advanced carious condition, linings were found necessary. On the whole the lower incisions were found to be sound, but this, unfortunately, was not the case with the uppers.

Other operations carried out were 1,302 in connection with permanent, and 1,588 with temporary teeth. Some cases of ulcerated mouths were seen, and these quickly responded to treatment. Generally speaking the condition of the gums was not satisfactory; in some cases the inflammation is associated with neglect and accumulation of tartar, in others with mouth breathing. Frequently the patients are quite unaware of gum trouble as there is rarely pain unless it has reached an advanced stage.

In 675 cases advice was given concerning various matters. There seems to be an increased interest taken by parents in the treatment given. In some cases they may come to suggest that treatment is unnecessary, but when the case is explained they almost all give consent for the work to be done.

ATTENDANCES :

Total, 2,822, of which number 2,229 were Elementary school children, and 593 Secondary. Appointments are made for fillings. Ordinary extractions are arranged for Tuesday morning or Thursday afternoon, but if in pain treatment is given at any time.

Every effort is made to impress on the children the value of sound teeth, both from a health and also from the appearance point of view. Mouth washes are often prescribed with beneficial results. Patients seem to have somewhat curious ideas as to the use of tooth-brushes. In one case the brush was stated to be used "first thing in the morning," oblivious of the fact that throughout the rest of the day and night particles of food cling to the teeth and stimulate decay. To others its use is like the bath to be used on certain fixed days such as Saturdays and Sundays, whilst others consider it valueless unless powder or paste is available. Hence one has to constantly reiterate the necessity of using the brush regularly after meals but certainly last thing at night. I have found some value from distributing cards, giving hints as to cleaning teeth, used by a large firm of chemists. Although the firm's object is mainly to advertise, I use them to emphasise the advice I have already given.

The instance of the removal of a very large dental cyst intact, attached to the root of an upper molar, appears to be worth recording. The root of the tooth was very septic, but as is usual in such cases little pain had been felt.

Attached is a table analysing the cases which did not receive treatment. Objections are about 5%, which is satisfactory, the remainder 7% consist of those stated to be having private treatment, were absentees, or left before treatment. Much depends on the attitude of the head teachers; in those cases where they show a lively interest the number of objectors is small, showing how much can be accomplished by their efforts.

I have the honour to be,

Sir,

Your obedient Servant,

WINIFRED M. HUNT,

Dental Officer.

ELEMENTARY SCHOOLS.

Inspected	Defective	Treated	NOT TREATED			Awaiting Treatment
			P.T.	Left or Absent	Object	
2,206	2,057	1,506	51	61	84	355

ELEMENTARY AND SECONDARY SCHOOLS.

	Inspected	Sound	Defective	Treated	Retreated
<i>Elementary</i>					
Routine ..	1,671	149	1,522	971	573
Casuals ..	535	—	535	535	—
TOTAL ..	2,206	149	2,057	1,506	573
<i>Secondary</i>					
Routine ..	615	75	530	311	193
Casuals ..	58	—	58	58	—
TOTAL ..	673	75	588	369	193
JOINT TOTALS	2,879	224	2,645	1,875	766

XXIV. STATISTICAL TABLES.

ELEMENTARY SCHOOLS.

TABLE I.

RETURN OF MEDICAL INSPECTIONS.

A.—ROUTINE MEDICAL INSPECTION

Number of Code Group Inspections—

Entrants ...	...	...	...	500
Intermediates	...	...	...	370
Leavers ...	...	...	...	383
Total				1253

Number of other Routine Inspections ... 136

B.—OTHER INSPECTIONS.

Number of Special Inspections	...	...	1823
Number of Re-inspections	...	...	3723
Total			5546

TABLE II.

A—RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR
ENDED 31ST DECEMBER, 1927.

DEFECT OR DISEASE.				Routine Inspections : No. of Defects.		Specials No. of Defects.		
				Requiring Treatment.	Requiring to be kept under ob- servation, but not requiring Treatment.	Requiring Treatment.	Requiring to be kept under ob- servation, but not requiring Treatment.	
(1)				(2)	(3)	(4)	(5)	
SKIN	..	Malnutrition, etc.	..	..	12	—	3	—
		Uncleanliness— (see Table IV., Group V.)						
		Head	..	..	2	—	4	—
		Body	..	..	—	—	—	—
		Ringworm—			—	—	6	—
		Scalp	..	..	—	—	12	—
		Body	..	..	—	—	3	—
		Scabies	..	..	3	—	139	—
		Impetigo	..	..	14	—	115	—
		Other Diseases (Non-Tuberculous)						
EYE	..	Blepharitis	..	..	4	3	25	1
		Conjunctivitis	..	..	4	2	49	—
		Keratitis	..	..	1	—	—	—
		Corneal Opacities	..	..	—	—	—	—
		Defective Vision (excluding Squint)	..	..	32	9	51	—
		Squint	..	..	12	8	24	1
		Other Conditions	..	..	2	—	27	—
EAR	..	Defective Hearing	..	..	12	—	17	—
		Otitis Media	..	..	4	—	52	—
		Other Ear Diseases	..	..	—	—	19	—
NOSE AND THROAT		Enlarged Tonsils only	..	..	56	29	26	3
		Adenoids only	..	..	7	3	8	2
		Enlarged Tonsils and Adenoids			27	4	25	1
		Other Conditions	..	..	8	—	154	—
ENLARGED CERVICAL GLANDS (Non-Tuberculous)				4	1	49	—	
DEFECTIVE SPEECH				1	2	—	—	

TABLE II.—*continued.*

(1)					(2)	(3)	(4)	(5)
TEETH	Dental Diseases (see Table IV., Group IV.)				9	—	12	—
HEART AND CIRCULATION	{	Heart Disease—						
		Organic	3	—	5	—		
		Functional	2	9	—	1		
		Anæmia	32	15	21	1		
LUNGS ..	{	Bronchitis	24	5	50	1		
		Other Non-Tuberculous Diseases	2	—	—	—		
TUBER- CULOSIS	{	Pulmonary—						
		Definite	4	1	3	—		
		Suspected	14	9	18	7		
		Non-Pulmonary—						
		Glands	1	—	—	—		
		Spine	—	—	—	—		
		Hip	2	—	2	—		
		Other Bones and Joints	1	—	1	—		
		Skin	—	—	—	—		
		Other Forms	—	—	—	—		
NERVOUS SYSTEM	{	Epilepsy	1	1	3	—		
		Chorea	3	2	2	—		
		Other Conditions	7	5	8	1		
DEFOR- MITIES	{	Rickets	1	—	3	—		
		Spinal Curvature	3	—	—	—		
		Other Forms	21	3	10	—		
Other Defects and Diseases				37	8	847	11	

B—NUMBER OF *individual children* FOUND AT *Routine* MEDICAL INSPECTION
TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

Group.	Number of Children.		Percentage of Children found to require treatment.
	Inspected.	Found to require treatment.	
(1)	(2)	(3)	(4)
CODE GROUPS :			
Entrants	500	112	22.4
Intermediates	370	76	20.6
Leavers	383	75	19.6
Total (code groups)	1253	263	21.0
Other routine inspections ..	136	49	36.0

TABLE III.

RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

			Boys	Girls	Total
Blind (including partially blind)	(i.) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind	—	—	—
		Attending Public Elementary Schools ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
	(ii.) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind	1	—	1
		Attending Public Elementary Schools ..	—	1	1
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
Deaf (includ- ing deaf and dumb and partially deaf)	(i.) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf	2	2	4
		Attending Public Elementary Schools ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
	(ii.) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf	—	—	—
		Attending Public Elementary Schools ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
Mentally Defective	Feeble- minded (cases not notifiable to the Local Control Authority.)	Attending Certified Schools for Mentally Defective Children	4	1	5
		Attending Public Elementary Schools ..	1	2	3
		Attending an Uncertified School for Mentally Defective Children	1	—	1
		At no School or Institution	5	3	8
	Notified to the Local Control Authority during the year.	Feeble-minded	—	—	—
		Imbeciles	—	1	1
		Idiots	—	—	—

TABLE III.—*continued.*

			Boys	Girls	Total
Epileptics	Suffering from severe epilepsy	Attending Certified Special Schools for Epileptics	—	1	1
		In Institutions other than Certified Special Schools	—	—	—
		Attending Public Elementary Schools ..	—	—	—
		At no School or Institution	2	2	4
	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools ..	—	—	—
		At no School or Institution	—	—	—
Physically Defective.	Infectious pulmonary and glandular tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
	Non-infectious but active pulmonary and glandular tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board ..	—	—	—
		At Certified Residential Open-Air Schools ..	2	1	3
		At Certified Day Open-Air Schools ..	—	1	1
		At Public Elementary Schools (quiescent) ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
	Delicate children, (<i>e.g.</i> , pre or latent tuberculosis, malnutrition, debility, anæmia, etc.)	At Certified Residential Open-Air Schools ..	—	—	—
		At Certified Day Open-Air Schools ..	34	45	79
		At Public Elementary Schools	8	4	12
		At other Institutions	—	—	—
		At no School or Institution	—	1	1

TABLE III.—*continued.*

			Boys	Girls	Total
Physically Defective	Active non-pulmonary tuberculosis	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board ..	—	1	1
		At Public Elementary Schools (quiescent) ..	—	—	—
		At other Institutions	—	—	—
		At no School or Institution	—	—	—
	Crippled children (other than those with active tuberculous disease), <i>e.g.</i> .. children suffering from paralysis, etc., and including those with severe heart disease.	At Certified Hospital Schools	—	1	1
		At Certified Residential Cripple Schools ..	—	—	—
		At Certified Day Cripple Schools ..	—	—	—
		At Public Elementary Schools	15	16	31
		At other Institutions	6	6	12
		At no School or Institution	5	2	7

TABLE IV.

*Return of Defects treated during the Year ended
31st December, 1927.*

TREATMENT TABLE.

*Group I.—Minor Ailments (excluding Uncleanliness, for which
see Group V.)*

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
<i>Skin—</i>			
Ringworm—Scalp	6	—	6
Ringworm—Body	12	—	12
Scabies	3	—	3
Impetigo	142	—	142
Other Skin Diseases	116	6	122
<i>Minor Eye Defects—</i> (External and other, but exclud- ing cases falling in Group II.)	61	—	61
<i>Minor Ear Defects</i>	91	7	98
<i>Miscellaneous—</i> (e.g., minor injuries, bruises, sores, chilblains, etc.)	842	8	850
Total	1273	21	1294

TABLE IV.—*continued.*

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I.)

Defect or Disease.	Number of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to refraction by private practitioner or at hospital, apart from the Authority's Scheme.	Otherwise.	Total.
(1)	(2)	(3)	(4)	(5)
Errors of Refraction (including Squint) ...	138	4	—	142
Other Defect or Disease of the eyes (excluding those recorded in Group I.) ...	41	1	—	42
Total ...	179	5	—	184

Total number of children for whom spectacles were prescribed :

(a) Under the Authority's Scheme	...	122
(b) Otherwise	...	4

Total number of children who obtained or received spectacles :

(a) Under the Authority's Scheme	...	95
(b) Otherwise	...	4

Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.				
Received Operative Treatment			Received other forms of Treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
(1)	(2)	(3)	(4)	(5)
102	4	106	—	106

Group IV.—Dental Defects.

(1) Number of Children who were :—

(a) Inspected by the Dentist :

Aged :

Routine Age Groups	5 ...	5	} Total ... 1671
	6 ...	245	
	7 ...	299	
	8 ...	242	
	9 ...	203	
	10 ...	233	
	11 ...	140	
	12 ...	153	
	13 ...	132	
	14 ...	19	

Specials ... 535

Grand Total 2206

(b) Found to require treatment ... 2057

(c) Actually treated ... 1506

(d) Re-treated during the year as the result of period-
ical examination ... 867

(2) Half-days devoted to ... { Inspection ... 18 } Total ... 304
Treatment ... 286 }

(3) Attendances made by children for treatment ... 2229

(4) Fillings ... { Permanent teeth 1385 } Total ... 1524
Temporary teeth 139 }

(5) Extractions ... { Permanent teeth 152 } Total ... 2012
Temporary teeth 1860 }

(6) Administrations of general anæsthetics for extractions Total ... Nil

(7) Other operations ... { Permanent teeth 889 } Total ... 2413
Temporary teeth 1524 }

Group V.—Uncleanliness and verminous conditions.

(i) Average number of visits per school made during the year
by the School Nurse ... 7.1

(ii) Total number of examinations of children in the schools
by School Nurse ... 5,392

(iii) Number of individual children found unclean... 110

(iv) Number of children cleansed under arrangements made
by the Local Education Authority ... Nil

(v) Number of cases in which legal proceedings were taken :

(a) Under the Education Act, 1921 ... Nil

(b) Under the School Attendance Bye-law ... Nil

*Appendix A.***SCHOOLS AND THEIR VENTILATION.**

By

J. V. A. SIMPSON, M.D. Lond., D.P.H. Camb.

In Appendix B of the Annual Report for 1924, a full and comprehensive description was given of the importance of ventilation and some account was included of the various tests used in assessing this character. Special detailed consideration was given to the most recent work of Professor Leonard Hill; and his kata-thermometer described at length, as this is the instrument which has been used in the Torquay investigations. Reference may be made to the Appendix mentioned for the full details, but suffice it to say that the whole question of ventilation depends on the amount of movement of air of suitable temperature and humidity. The Kata-thermometer measures comparatively and approximately the rate of heat loss of the body under varying conditions. By this it has been possible, from empirical experiments, to lay down definite standards, and Professor Leonard Hill asserts that the absolute minima should be 6 for the Dry Kata reading and 18 for the Wet Kata. In schools, it is preferable that these figures should be 7 and 20 respectively, as children need an atmosphere with not less but a greater cooling power.

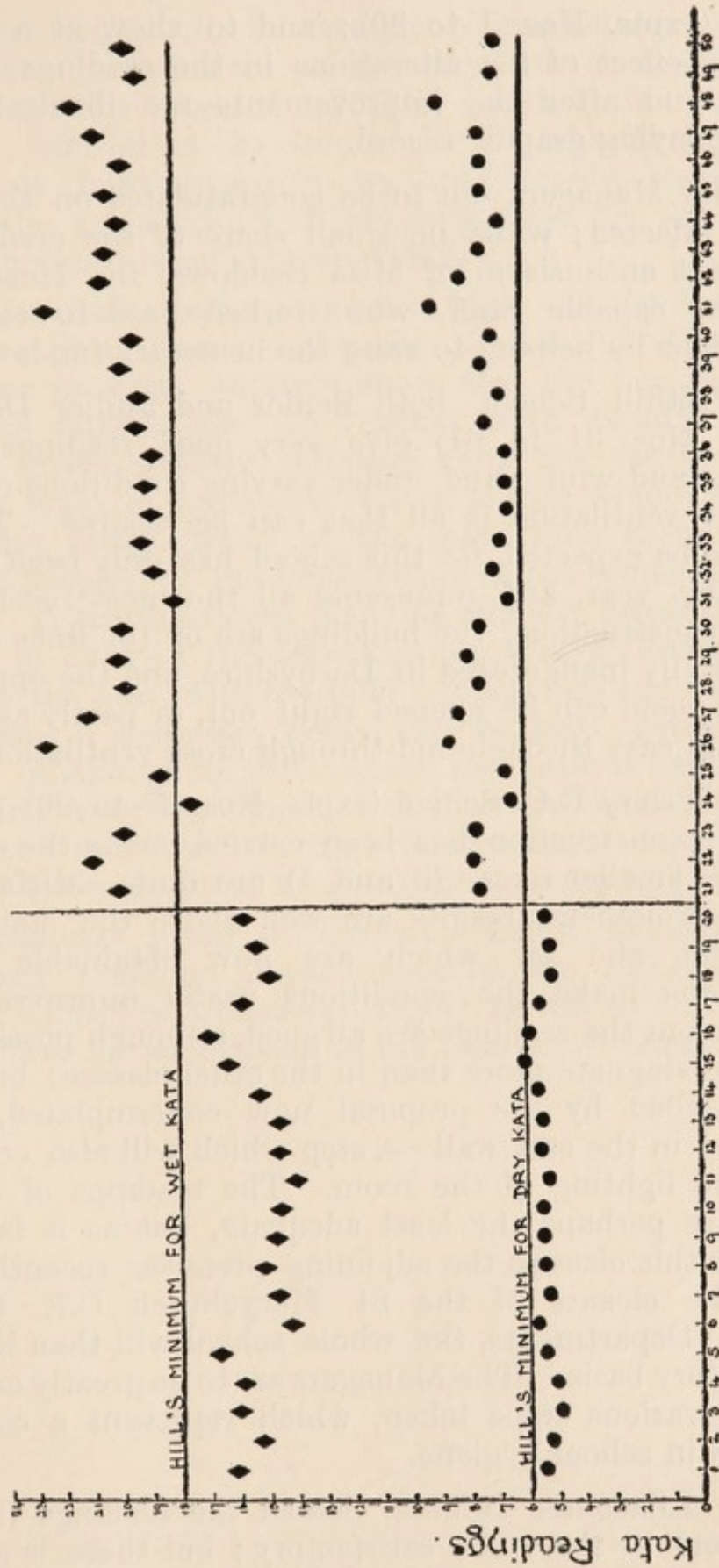
In 1925 and 1926 further series of experiments were carried out, and again in 1927 I have continued the readings in various schools of the Borough—St. James', Westhill Senior and Junior, Priory R.C. and Ellacombe Infants' Schools.

At St. James' School it is gratifying to record that the alterations and reconstruction of the windows previously recommended in my Reports have resulted in a great improvement, and the ventilation may now be considered quite satisfactory in every respect. In 1925 the readings of the Kata-thermometer were in every case below the minimum standards; while since the alterations, every reading, without exception, is good and well above the standard required. The full details of the experiments in 1927 are given in the table

ST. JAMES' SCHOOL .

BEFORE ALTERATIONS.

AFTER ALTERATIONS.



Number of Experiment.

◆ - Wet Kata Results.
● - Dry Kata Results.

below (expts. Nos. 1 to 30); and to show at a glance the striking effect of the alterations in the readings, the results before and after the improvements are illustrated in the accompanying graphic record.

The Managers are to be congratulated on the improvements effected; while no small share of the credit is due to the great enthusiasm of Miss Beddows, the Head Teacher, and her capable Staff, who worked hard to expedite the alterations by helping to raise the necessary funds required.

Westhill School, both Senior and Junior Departments (expts. Nos. 31 to 61) give very good readings, both in summer and winter and under varying conditions of weather: and the ventilation is all that can be desired. This might perhaps be expected, for this school has only been completed early this year, and represents all the most recent ideas in school construction; the buildings are on the lines of the type successfully inaugurated in Derbyshire, and the opposite sides of each room can be opened right out, or partly as is needed, to obtain easy through-and-through cross ventilation.

At Priory R.C. School (expts. Nos. 62 to 90) some most useful reconstruction has been carried out to the classrooms. The two smaller rooms (3 and 4) are quite satisfactory; the Kata-thermometer results are well above the standard, and the light and air which are now obtainable since the alterations make the conditions vastly improved. In the larger room the readings are all good, although possibly the air tends to stagnate more than in the other classes; but this will be remedied by the proposal now contemplated, to insert windows in the east wall—a step which will also considerably help the lighting of the room. The readings of the Infant room are perhaps the least adequate, but as it is hoped to transfer this class to the adjoining premises recently acquired after the closure of the St. Marychurch C.E. Girls' and Infants' Departments, the whole school will then be put on a satisfactory basis. The Managers are to be greatly commended on the various steps taken, which represent a considerable advance in school hygiene.

At Ellacombe Infants' School the readings (Nos. 91 to 108) were in the main satisfactory; but there is a tendency for stagnation to occur in the baby room and at the end of the

large central room. It is strongly recommended that the window space be increased at the east end of this central room, and modern types of windows inserted; for not only would the ventilation be improved but also the present unsatisfactory lighting would be considerably augmented. Moreover, the substitution of ordinary glass for the glazed variety is another urgent recommendation.

It is far from being pretended that all these various buildings are ideal from every point of view, but the Kathermometer readings certainly show that the ventilation is more or less satisfactory. In Torquay, with its mild winter, the lack of severe weather certainly helps the ventilation in these older types of buildings: for it allows windows being opened more freely, while at the same time there is less difficulty in keeping up the temperature of the rooms to about 60 deg. F. It seems evident that this climatic advantage has something to do with the satisfactory readings; and for the most part of the year, with the mild temperature and sunshine, windows (and if necessary doors) can be kept opened much more than otherwise so as to assist the natural ventilation. It is of course a corollary to the fact that the open-air school here can keep on throughout the winter without any artificial heat, while in the north of England this is not possible.

The readings given in the table below, taken in the Juvenile and Lending Departments of the Library, have formed the subject of a separate Report by me to the School Medical Officer for submission to the Committee concerned.

KATA-THERMOMETER READINGS.

No. of Expt.	School	Date	Time Approx.	Room	No. Children	Accommodation	Temperature Deg. Fahr.	Dry Kata	Wet Kata	Weather & Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	St. James'	30-3-27	2.20 p.m.	1	41	40	60	7.5	20.2	Fine; S.W. wind
2	"	"	2.35 "	2	35	40	59	7.7	21.0	
3	"	"	2.45 "	3	41	40	62	7.5	19.9	
4	"	"	2.55 "	Baby	39	48	63	6.3	17.6	
5	"	"	3. 5 "	6	42	40	60	6.6	18.5	
6	"	"	3.15 "	4	47	40	60	8.5	22.6	Facing prevailing wind
7	"	"	3.25 "	7	27	30	58	8.2	21.2	
8	"	6-4-27	2. 5 "	1	43	40	60	7.5	19.8	Fine; mild
9	"	"	2.20 "	2	42	40	60	7.9	20.2	
10	"	"	2.30 "	3	41	40	62	7.4	20.0	
11	"	"	2.40 "	6	40	40	63	6.3	18.0	
12	"	"	2.55 "	4	45	40	62	7.0	18.8	
13	"	13-4-27	2.20 "	1	38	40	63	6.7	19.1	Fine; warm
14	"	"	2.30 "	2	36	40	63	6.4	18.8	
15	"	"	2.45 "	3	38	40	64	6.5	19.0	
16	"	"	3. 0 "	4	47	40	63	6.5	18.8	
17	"	13-5-27	11.20 a.m.	1A	46	40	60	7.3	19.4	Fine: mild
18	"	"	11.35 "	2	47	40	62	6.8	19.2	
19	"	"	11.45 "	1B	16	40	60	7.5	19.9	
20	"	"	11.55 "	4	42	40	59	7.1	19.4	
21	"	28-9-27	2.50 p.m.	7	28	30	60	9.2	22.5	Fine; cool
22	"	"	3. 5 "	1A	38	40	59	8.2	20.8	
23	"	"	3.15 "	2	41	40	60	7.6	20.6	
24	"	"	3.25 "	Baby	36	48	60	6.9	20.2	
25	"	"	3.35 "	6	—	40	59	7.6	20.5	

KATA-THERMOMETER READINGS—continued.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
26	St. James', <i>cont.</i>	28-9-27	3.45 p.m.	4	37	40	59	7.5	20.0	
27	"	"	4. 0 "	1B	—	40	59	7.6	21.0	
28	"	5-12-27	2. 5 "	1	35	40	57	8.0	21.8	Fair; cool
29	"	"	2.15 "	2	37	40	58	7.2	19.5	
30	"	"	2.30 "	3	40	40	61	7.1	19.9	
31	Westhill Senr	13-7-27	2. 5 "	1	32	40	69	7.4	22.9	Very warm and humid
32	"	"	2.15 "	2	36	40	70	7.5	22.8	
33	"	"	2.25 "	3	44	48	71	8.3	21.8	
34	"	"	2.35 "	4	39	40	69	7.4	23.3	
35	"	"	2.45 "	5	38	48	69	7.9	22.8	
36	"	"	2.55 "	6	30	40	70	7.0	20.7	Not all windows wide open
37	"	"	3. 5 "	7	33	40	69	8.0	22.7	
38	" Junr	12-9-27	9.45 a.m.	1	39	40	58	9.5	20.2	Fine
39	"	"	9.55 "	2	39	40	59	8.8	20.8	Half sides shut
40	"	"	10. 5 "	4	41	40	58	7.6	19.1	One side shut
41	"	"	10.15 "	5	34	40	59	7.1	20.2	Hoppers open
42	"	"	10.30 "	Hall	78	80	57	7.3	18.7	
43	"	16-9-27	9.40 "	1	39	40	60	8.1	19.8	Dull; half sides open
44	"	"	9.50 "	3	37	40	62	7.9	19.4	" "
45	"	"	10. 0 "	5	35	40	63	6.2	18.0	One end half sides open
46	"	"	10.10 "	6	34	40	62	7.8	20.2	Whole one side open
47	"	"	10.20 "	7	35	40	63	6.7	18.0	Hoppers only open
48	"	19-9-27	9.45 "	7	41	40	62	6.9	20.5	Fine; windy
49	"	"	10. 0 "	6	37	40	62	6.7	19.8	Hoppers only open
50	"	"	10.10 "	Hall	68	80	61	8.3	21.0	
51	" Senr	"	10.20 "	2	44	40	64	7.7	20.8	Half side open
52	"	"	10.30 "	3	44	48	62	8.4	20.0	
53	"	25-11-27	10. 0 "	7	42	40	59	6.7	18.0	Fine; still atmosphere
54	"	"	10.10 "	5	39	48	58	6.7	18.4	

KATA-THERMOMETER READINGS—*continued.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
55	Westhill Senr, <i>cont.</i>	25-11-27	10.20 a.m.	4	23	40	57	7.3	20.2	
56	"	"	10.30 "	3	44	48	58	6.5	18.5	
57	"	"	10.40 "	2	36	40	58	6.9	18.6	
58	" Junr	"	10.50 "	2	31	40	58	6.7	18.5	
59	"	"	11. 0 "	4	37	40	60	6.5	17.8	
60	"	"	11.15 "	6	32	40	60	6.5	17.7	
61	"	"	11.30 "	7	—	40	60	7.5	18.5	
62	Priory R.C.	6-4-27	3.20 p.m.	1	26	35	62	6.5	19.1	Fine; mild
63	"	"	3.35 "	2	29	35	61	6.7	19.9	
64	"	"	3.45 "	4	21	35	61	6.4	18.6	
65	"	"	3.55 "	3	41	35	61	6.7	18.8	
66	"	"	4. 5 "	Baby	30	45	61	7.2	20.8	
67	"	13-5-27	10.10 a.m.	1	22	35	59	6.9	19.8	Fine; mild
68	"	"	10.25 "	2	28	35	58	7.1	20.0	
69	"	"	10.35 "	4	26	35	57	7.2	20.0	
70	"	"	10.45 "	3	34	35	57	7.8	20.2	
71	"	"	11. 0 "	Baby	41	45	61	6.7	17.8	
72	"	28-6-27	2.20 p.m.	1	23	35	60	6.5	18.5	Fine
73	"	"	2.35 "	2	28	35	60	6.6	18.4	
74	"	"	2.45 "	4	28	35	59	7.7	20.0	
75	"	"	3. 0 "	3	22	35	60	7.8	20.8	
76	"	1-7-27	9.45 a.m.	1	17	35	60	6.2	18.4	Mild; wet still atmosphere
77	"	"	10. 0 "	2	24	35	60	6.4	18.9	
78	"	"	10.10 "	4	32	35	60	6.2	19.0	
79	"	"	10.20 "	3	21	35	59	6.3	19.6	
80	"	"	11.50 "	Baby	42	45	65	6.0	18.1	
81	"	28-11-27	10. 0 "	1	28	35	57	7.0	19.5	Dull; mild
82	"	"	10.15 "	2	31	35	57	7.4	20.0	
83	"	"	10.30 "	4	38	35	56	8.1	19.6	

KATA-THERMOMETER READINGS.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
84	Priory R.C.	28-11-27	10.45 a.m.	3	28	35	56	7.4	19.5	
85	cont.	"	11. 0 "	Baby	—	45	56	7.3	19.3	
86	"	5-12-27	10.10 "	1	29	35	59	6.3	17.8	Fair
87	"	"	10.25 "	2	27	35	57	7.2	17.6	
88	"	"	10.35 "	4	36	35	56	8.9	22.0	
89	"	"	10.45 "	3	31	35	57	8.2	20.0	
90	"	"	10.55 "	Baby	37	45	58	6.9	19.2	
91	Ellacombe	4-2-27	2.15 p.m.	1	—	48	63	6.0	16.5	Fine
92	Infants	"	2.25 "	2	34	52	61	7.4	19.3	
93	"	"	2.35 "	3	31	56	59	6.8	18.4	
94	"	"	2.45 "	4	47	36	64	5.5	16.0	
95	"	7-2-27	11.20 a.m.	1	37	48	57	7.7	18.0	Fine ; cold
96	"	"	11.35 "	2	—	52	54	7.9	18.6	
97	"	"	11.45 "	3	32	56	52	8.8	20.8	
98	"	"	11.55 "	4	53	36	60	6.3	17.9	
99	"	9-2-27	11.20 "	1	38	48	52	7.8	23.4	E. wind ; dull
100	"	"	11.30 "	2	—	52	51	8.4	23.6	
101	"	"	11.45 "	3	42	56	50	8.6	24.0	
102	"	23-2-27	11. 0 "	1	25	48	57	7.2	18.1	Showery ; mild
103	"	"	11.15 "	2	26	52	56	7.8	18.9	
104	"	"	11.30 "	3	35	56	55	8.0	19.4	
105	"	"	11.45 "	4	23	36	58	7.1	18.0	
106	"	9-3-27	11.25 "	1	24	48	59	6.4	16.3	Fine
107	"	"	11.40 "	2	30	52	59	6.9	16.9	
108	"	"	11.55 "	3	31	36	57	7.1	17.4	
109	Public	20-9-27	3.45 p.m.	Juv'le	—	—	63	5.3	15.0	Mild
110	Library	"	3.55 "	Dept.	—	—	63	5.3	15.1	Near window
111	"	23-9-27	5.40 "	"	—	—	64	5.3	15.4	Mild
112	"	"	5.50 "	"	—	—	64	5.5	15.7	Near window

KATA-THERMOMETER READINGS.—*continued.*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
113	Public Lib.	27-9-27	6.20 p.m.	Juv'le	—	—	61	6.1	17.1	Fine; cold
114	cont.	"	6.30 "	Dept.	—	—	61	6.3	17.7	Near window
115	"	22-11-27	5. 0 "	"	—	—	62	5.3	15.0	Fine
116	"	"	5.15 "	"	—	—	62	5.9	16.8	Near window
117	"	23-11-27	3.30 "	Lend-	—	—	61	5.7	16.2	Fine
118	"	"	3.40 "	ing	—	—	62	5.3	15.6	
119	"	25-11-27	2.30 "	Juv'le	—	—	60	6.0	16.3	Fine
120	"	"	2.45 "	Lend-	—	—	62	5.5	16.0	
121	"	28-11-27	2.15 "	ing	—	—	61	5.9	16.0	Dull
122	"	"	2.25 "	"	—	—	61	6.0	16.4	
123	"	"	2.35 "	Juv'le	—	—	61	5.4	15.5	
124	"	"	2.45 "	"	—	—	61	5.5	16.0	
125	"	29-11-27	6.10 "	"	—	—	61	5.3	13.8	Fine; cold
126	"	"	6.25 "	Lend-	—	—	58	6.4	17.5	
127	"	9-12-27	2.10 "	ing	—	—	60	6.1	18.2	Dull
128	"	"	2.20 "	"	—	—	60	5.9	17.2	
129	"	"	2.30 "	Juv'le	—	—	62	5.5	17.7	
130	"	"	2.40 "	"	—	—	62	5.2	16.0	

*Appendix B.***THE MEASUREMENT of the ULTRA-VIOLET RAYS
IN THE ATMOSPHERE.**

By

J. V. A. SIMPSON.

Under the direction and guidance of Prof. Leonard Hill, Director of the Department of Applied Physiology at the National Institute for Medical Research, Hampstead, daily measurements have been taken of the ultra-violet rays of the atmosphere. These rays are short invisible rays situated beyond the violet colour of the spectrum (or rainbow of colours) which is produced when sunlight is passed through a quartz prism. The ultra-violet rays come both directly from the sun and indirectly from the scattered light of the expanse of sky, being greatest with clear blue sky: in fact the value of the rays of the whole sky is greater than that of the direct sun in this country. The rays are stopped or cut off by clouds, mist or smoke; and ordinary glass windows stop these rays to a considerable extent. The ultra-violet rays have a powerful action on the skin, causing sunburn and promoting health; while they have a definite curative effect in cases of rickets, surgical tuberculosis and debility.

The measurement of the rays was effected by the Acetone Methylene Blue Gauge; and the daily readings given below were taken in the neighbourhood of the Open-Air School, and may be considered to give some idea of the minimum daily (24 hourly) amount obtainable there. During the summer, the readings were also started on the Princess Pier near the sun recorder, by the Borough Meteorologist in conjunction with me; and these readings are now sent daily to "The Times" in London for insertion.

Further a certain number of special observations have been carried out in connection with the possible reflection of the rays by the sea; and these results, together with various monthly records, have in each case been sent direct to Prof. Hill at the Institute for Research.

ULTRA-VIOLET LIGHT DAILY READINGS. (In Units).

Day of Month	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
1		3	4½	4	2½		4	2½	1½	2
2		2	2	5½	4		5	2	1	0
3		4	3	6	3		3½	4½	2½	½
4		2	3	5	2½		2½	4½	3	½
5		2	5	2½	4		2	4	2	1½
6		5	5	5½	4		1½	3	2½	½
7		3	5½	2½	5½		4	3	2½	½
8		3	5	5½	5		1½	3	1	1
9		2½	2½	3½	5		3	3	2	½
10		2½	4	5	4½		3	2½	2	½
11		3	5½	5½	6		4	2½	2	0
12		4	4	6	5	HOLIDAYS	2½	2½	2½	½
13		3	3	5½	3½		2	2	2	0
14		2½	4	5½	3½		2	2½	2½	1
15		3½	3	3½	4		2½	3½	2	1
16		5½	4½	6	4		3	3½	1½	0
17		4	5	5	5		3½	2	1	½
18		4½	4½	4½	5½		2	2½	1	½
19		5	4½	4	2½		3	2	½	0
20		5½	5	6	3½		2½	2½	1	0
21		6	5	3	2½		2	2½	½	1
22		3	4½	4½	3½		2½	2	1½	½
23		5	5½	5	4		1	2	1	1
24	3	3	5½	3	3½	3	3	2½	1	1
25	2½	2½	4½	3	4	4	3	2	2	0
26	3	4	3½	4½		3½	3	1	1½	0
27	2½	3	2½	3½		3½	3½	1	1	½
28	3	2	3	4½		2½	2½	2	1	2
29	4	4½	2	3½		4	2	2½	2	0
30	5	5	3	4		3	2½	1½	½	½
31	1		4			2½		2½		1

*Appendix C.***THE ASSESSMENT OF PHYSICAL FITNESS.**

By

J. V. A. SIMPSON, M.D. Lond., D.P.H., Camb.

In the Annual Report for 1925, an appendix was included detailing the effect of rowing exercise on the physical fitness of Elementary Schoolboys: and the Air Force Tests of Flack (as modified for schoolboys by Woolham) were used before and after the period of training for rowing. As a result, certain conclusions were obtained; it was found that the Flack-Woolham tests are very important as an aid to the assessment of physical fitness, while it seemed that the best single test was the third test taken in conjunction with the pulse readings during its performance. This test is significant because with good physique and muscle tone there is a slight increase and a well-sustained pulse rate, with moderate physique the pulse rate falls slowly throughout the test although tending to rise more at the start, and with poor physique there is a rapid rise and early fall in the heart rate.

During 1927 an effort has been made to take a random sample of schoolboys and apply the Flack Tests, at the same time measuring the blood pressure before the tests, and during and after Test 3.

The Flack tests are :—

1. BREATH-HOLDING TEST. (Symbol: Br.). The subject is asked to breathe out audibly and as fully as possible, then to inspire as deeply as he can, and (clipping his nose) to hold his breath until he can hold it no longer. The time is recorded in seconds.
2. THE EXPIRATORY PRESSURE TEST. (Symbol: Pr.). After preliminary expiration and inspiration, the subject holds his cheeks with the thumb and forefinger of the left hand, and steadily blows the mercury column of the standard U-tube up as high as possible. The reason for holding the cheeks is to prevent the cheek muscles forcing the mercury up to an extra height. The height is recorded in millimetres.

3. THE PERSISTENCE TEST (Symbol: Per.). Woolham's modification. The subject is asked to breathe out as far as possible, then inspire fully, blow the mercury up to *half the height* in Test 2, and (with the nose clipped) hold it there without breathing as long as possible. The time is recorded in seconds.

The heart rate was taken before, during, and after this test by the writer: the heart sounds were counted (using a stethoscope) every 5 seconds, and called out to an assistant to mark down, while another assistant timed the number of seconds during which the breath was held. A stop-watch, marking fifths of a second was used for timing, and the heart sounds could thus be counted with some degree of accuracy every 5 seconds.

The blood pressure was taken with a Tycos Sphygmomanometer, and in every case the auscultation method was used. It was found that, by obtaining the systolic pressure just before the start of Test 3, it was possible to follow the pressure through the tests making adjustments at very short intervals. For instance, if the sound indicating systolic pressure was heard at 120 mm. pressure at the start, a small increase to (for example) 130 mm. obliterated the sound which returned at (for example) 125 mm.: this number was called out to an assistant while a new adjustment was immediately made. In this way, the systolic blood pressure was "followed" at approximately 5 or 7 seconds intervals throughout the test; while the length of the test was timed with a stop-watch by a second assistant.

The five-second pulse rate readings were taken separately, as it did not seem possible (at least without other assistance and apparatus) to combine the accurate five-second record of the pulse with the readings of the blood pressure during one single test. Further a series of observations showed that the type of pulse reaction for a given subject was constant when taken on different occasions not too far apart in time; and it was thus assumed that the pulse response on the occasion of taking the blood pressure was similar to the record given.

The Flack product as modified by Woolham is

$$1000 \times \frac{\sqrt{\text{Pr} \times \text{Per} \times \text{Br.}}}{4} \times \frac{(\text{Age in years})}{1.807}$$

The factor of the age has been graphed by Woolham, to whom the writer is indebted for a copy: with this graph and using a slide rule, the calculation is simple and rapid.

The findings of the tests and the readings of pulse rate and blood pressure are given in the tables at the end of this section of the report.

The pulse rates exhibited the same three main types which were previously found in the investigation of 1925, alluded to above—the sustained, the type with a slow continuous fall, and the pulse with a rapid initial rise followed by an early sharp fall. And in addition there was sometimes the slight drop in rate immediately prior to breaking point, which occurs in all three types of reaction.

As a general rule the systolic blood pressure showed a rise during the third (persistence) test; in certain cases, Nos. 3, 5, 6, it showed a small rise with slight variations around the maximum point, and this type seemed to occur in those boys who had a well-sustained pulse during the test. In other cases, Nos. 2, 4, the blood pressure rose gradually throughout the test while the pulse showed a slow, almost uniform fall; in certain types this may have been compensatory, as case 2 gave particularly good breath-holding and persistence times, and this boy is a good athlete, having won a mile cycling race and being third in a mile running race a short time before the tests were applied. Certain other cases Nos. 14, 15, 18, showed a marked rise and fall of the blood pressure; and this type seems correlated with the unstable pulse—a rapid rise and early fall. These boys were clinically defective and were in attendance at a day open-air school.

At the conclusion of the test, the systolic blood pressure seemed to return, quickly in most cases, to the approximate initial height as taken before the application of the tests.

In case 13, there was a very decided drop in the pulse rate just prior to the breaking point, and during the test his blood pressure rose gradually from 108 to 135. And it would appear that such a case illustrates the point raised by Flack and Burton (1) who noted "a marked and often abrupt fall of pulse rate" when the arterial pressure is increased to a high point. They suggest that "in subjects with a pronounced tendency to abdominal pooling the systolic pressure becomes so greatly increased together with the acceleration of the heart, due to the increased blood supply to the right heart, that a vagal reflex initiated by the stimulation of the depressor nerve endings in the aortic arch, causes a marked slowing of the heart rate." Paton (2) also looked on the variations in the pulse rate during inspiration and expiration as an attempt at adjustment to the changes in distribution of blood as between the pulmonary and systemic circulations resulting from variations in the capacity of the chest: and in test 3 there is probably the same type of adjustment.

In certain boys, notably 14, 15, the marked drop in pulse rate occurred, and in these the blood pressure after an initial rise also declined towards the end of the test; so it may be that actual myocardial fatigue plays some part in the fall of pulse rate. This point the writer noted in the previous series (3).

The findings of this present investigation show no case with an initial fall in systolic blood pressure, and there was no instance in which the pressure fell to a level below the figure obtained when the boy was resting before the tests were applied. This fact is interesting because in a series of experiments on men with healthy and diseased hearts, M. Burger (4) found that in athletes with hypertrophied hearts the arterial pressure is maintained or even increased; in normal people the pressure falls to about two-thirds of its original height, while in persons with asthenic hearts the pressure falls to about one-third or one-quarter of its original figure. During those tests the maintenance of an intrapulmonary pressure of 50 to 60 mm. Mercury was attempted for about 20 seconds. Moreover, investigation concerning the effect of inflation of the lungs on rabbits showed that an increase in intrapulmonary pressure of 20 to 40 mm. Mercury

caused a great fall in arterial blood pressure and a rise in venous pressure together with a considerable increase in the heart rate. This is rather an excessive degree of intrapulmonary pressure for such a small animal, and scarcely comparable with 40 mm. in a man.

The maintenance of arterial blood pressure is determined by the efficiency of the right ventricle (to send the blood through the area of positive pressure in the lungs) and it is suggested that it is the failure of this that causes the collapse.

Flack, as a result of his wide experience, states that "observations of the blood pressure during the test confirm the fact it elucidates also the stability of control of the blood pressure as well as of the pulse rate. When performed to an average degree of discomfort there is, in the fit subject, over a period of 50-60 seconds a rise of arterial pressure of about 30-40 mm. Mercury, *e.g.* 120 mm. Hg. to 160 mm. In the less fit, pressures, with attendant pulse acceleration, rise more quickly and to a greater height, *e.g.* 130-180 mm., or 190 mm. Hg., generally speaking 50-60 mm., in about 45-50 seconds. In the unstable the rise is even more marked and may be as great as 80-100 mm. Hg. It is noteworthy that a great part of such rises takes place in the first 15 to 20 seconds. This is interpreted as affording information in respect of abdominal pooling; the greater the rise the greater the pooling."

The results of the investigation on schoolboys show changes in blood pressure which seem more or less in accordance with what might have been expected in view of the concomitant variations of the pulse rate, in the types of stable and unstable vaso-motor systems. Further it may also seem to indicate that the adolescent heart has considerable reserve powers and can meet with severe demands on its strength—possibly much more so in comparison than the adult heart. This statement however, is only the opinion of the writer, formed as the result of these tests on elementary schoolboys and of previous clinical work at a heart hospital. It seemed that the adolescent heart never showed to the same extent the amount of failing compensation met with in adults; and even under a load of a grave organic lesion, the heart of

a young person maintained in many cases its work to a surprising degree without the clinical features of decompensation, although these supervened later in life. Moreover, in the Flack Tests (both in the series carried out on schoolboys in 1925 and the present record) the writer was struck with the way in which the heart responded, especially in some of the less robust types of boy. The "Persistence" test is not an easy test, and the unexpectedly good response in some of the cases seemed to support the view that the adolescent heart can meet quite successfully severe loads with its considerable reserve power. In any case it is an interesting point which might form a further line of investigation.

Taken in conjunction with the previous series, the results of the present group serve to strengthen the claims of these tests, especially test 3, to be of positive value in the assessment of physical fitness, and as a definite and valuable help to the findings of a clinical examination. The usual signs of clinical work are not always decisive, response to exercise is at present difficult to gauge by auscultation alone, but a bad reaction to test 3 usually means serious physical impairment or at least poor muscular and general tone, if not actual definite disease.

REFERENCES.

- (1). Flack, M., and Burton, J. *Journal of Physiology*, Proceedings 56, 1922, L.
- (2). *British Medical Journal*, 10th April, 1926, p. 666.
- (3). Simpson, J. V. A. Annual Report S.M.O., Torquay, 1925. Appendix A.
- (4.) Burger, M. *Klinische Wochenschrift*. 5, 1926, pp. 777-80.

TABLE OF RESULTS.

Serial No.	Date of Birth.	Date of Exam.	"Resting" Blood Pressure.		Black Woolham Product.	Br.	Pr.	Per	Pulse (P) and Systolic (S) B.P. in "Per." (Figures in italics show rates during actual test.)											
			Systolic.	Diastolic.					Seconds. N.B.—Blood pressure readings are only at approximately 5 sec. intervals.											
									0	5	10	15	20	25	30	35	40	45	50	
1	21-5-08	27-6-27	128	94	.13	32	90	24	P. 120 S. 130	156 140	132 145	132 140	132 142	108 140	96 135	108 130	108			
2	15-9-11	27-6-27	138	92	.54	50	125	35	P. 84 S. 138	106 150	108 160	108 160	84 165	84 170	84 170	72 170	60 150	72 140	84 130	
3	1-3-11	27-6-27	132	92	.36	47	85	31	P. 84 S. 120	120 130	120 135	120 135	120 135	120 135	120 140	96 120	72 120	84		
4	14-10-12	27-6-27	124	92	.56	64	85	30	P. 72 S. 130	108 130	108 145	96 150	84 155	84 160	72 170	84 130	84 120			
5	30-6-12	27-6-27	120	84	.73	64	110	35	P. 84 S. 120	108 130	108 145	108 155	108 165	108 165	72 165	84 160	96 120	84 115	84 110	
6	16-4-14	27-6-27	119	80	.22	35	60	21	P. 84 S. 120	96 130	96 135	96 135	96 140	72 120	96	84				
7	2-3-13	27-6-27	124	88	.19	36	55	22	P. 84 S. 130	108 130	108 140	84 140	72 145	84 130	72 130					
8	6-7-13	27-6-27	112	78	.15	33	72	18	P. 84 S. 112	156 120	132 110	108 110	72 110	96	84					
9	15-9-15	27-6-27	112	76	.20	31	50	20	P. 96 S. 110	120 120	144 120	132 120	72 105	84						
10	6-4-15	27-6-27	114	78	.19	45	54	20	P. 96 S. 115	132 120	108 125	96 135	72 135	96 120	72 115	84				

TABLE OF RESULTS—continued.

Serial No.	Date of Birth.	Date of Exam.	"Resting" Blood Pressure.		Flack Woolham Product.	Br.	Pr.	Per.	Pulse (P) and Systolic (S) B.P. in "Per." (Figures in italics show rates during actual test.) Seconds. N.B.—Blood pressure readings are only at approximately 5 sec. intervals.										
			Sys- to- lic.	Diag- no- stic.					0	5	10	15	20	25	30	35	40	45	50
11	21-7-16	27-6-27	118	80	.14	23	58	14	P. 84 S. 110	156 115	108 125	108 135	72 115	72	72				
12	9-3-14	9-11-27	98	76	.33	43	72	25	P. 84 S. 98	144 105	144 110	144 120	108 120	108 120	96 125	96 110	84 110	115	
13	12-6-13	4-7-27	108	74	.51	50	80	34	P. 72 S. 108	132 120	156 110	132 115	108 120	108 130	72 135	72 120	84 120	108	84
14	29-4-13	4-7-27	138	92	.63	64	84	32	P. 84 S. 135	144 150	120 170	120 180	120 185	108 170	84* 160	72 135	72 130	108	108
*Extra-systoles occurred towards the end of this test.																			
15	1-7-14	4-7-27	108	84	.34	37	60	30	P. 72 S. 108	120 115	108 110	96 120	108 125	108 115	84 105	84 105	84		
16	1-11-14	4-7-27	118	84	.32	37	65	26	P. 84 S. 116	120 125	84 120	84 120	72 120	84 120	96 115	108	108		
17	15-8-14	4-7-27	128	90	.30	28	40	12	P. 144 S. 145	168 145	120 130	120 145	132						
18	8-9-14	4-7-27	122	92	.35	30	85	32	P. 96 S. 115	156 120	144 135	120 140	108 130	96 125	96 120	108 120	108		
19	18-6-15	9-11-27	114	78	.36	34	110	24	P. 96 S. 114	132 120	126 130	96 140	84 140	60 140	108 120	96 115	84		
20	4-8-15	9-11-27	106	76	.21	31	60	19	P. 84 S. 106	120 110	96 115	96 120	84 120	96 115	84 110	84			

TORQUAY CHILDREN'S CARE COMMITTEE

REPORT FOR THE YEAR 1927.

Twenty-four cases were dealt with during the year, and assistance was given as follows:—

	1924 pairs	1925 pairs	1926 pairs	1927 pairs
Boots given free	4	8	5	5
Boots, part payment to be made by parents	6	1	6	8
Boots, full cost to be repaid by parents	2	5	4	6
	12	14	15	19
	Case	Cases	Cases	Cases
Milk supplied free	1	5	9	5
Special Surgical Boot, Splints, &c.	1	—	—	—

Boots.

The average cost per pair in 1927 was about the same as in 1926:—

In 1919 ...	49 pairs purchased	...	Average cost, 14s.	0d.
1920 ...	68 do.	..	do.	15s. 10d.
1921 ..	39 do.	...	do.	14s. 11d.
1922 ...	42 do.	...	do.	12s. 5d.
1923 ...	22 do.	...	do.	10s. 6d.
1924 ...	12 do.	...	do.	11s. 6d.
1925 ...	14 do.	...	do.	9s. 10d.
1926 ...	15 do.	...	do.	10s. 0d.
1927 ...	19 do.	...	do.	10s. 10d.

EYESIGHT.

During the year 56 cases were dealt with. Parents were required to pay the whole cost of spectacles in eight cases; in 21 the cost was borne partly by the parent and partly by the Fund; and in 27 a free grant was made. There were eight cases of repairs.

One case was of more than usual cost, 14s. 0d., as it was necessary to provide special frames for a girl without hands.

The cost in 1924 was	£16	9	6
1925	18	11	9
1926	11	0	5
1927	15	0	3

MILK.

Milk was granted in five cases, these being children recommended by the School Medical Officer or by the School Nurse, and they included children recovering from operations or from other hospital treatment.

FINANCE.

The year 1927 closed with a credit balance of £6 18s. 10d. on the Spectacles Account, but only 19s. 1d. on the Fund for Boots, Milk, etc.

If the Torquay Education Authority will grant £20 again for the year 1928, towards the eyesight portion of the Committee's work, that Fund will be maintained in a satisfactory state.

It is interesting to record that the Fund has now been in existence for just 21 years. It started as the result of a letter to the Press from the Rev. H. Every, dated January 12th, 1907, when the "Children's Eyesight Fund" was established, because at that time the medical inspection of elementary school children was commencing, and it was found that there were several cases in which the parents could not afford to provide the spectacles which were declared by the Oculist to be necessary. In such instances the Eyesight Fund either provided them free of cost, or made a grant towards the cost, the balance being paid by the parent. The scope of the work was extended in 1912, when aid for the provision of boots, or of milk, etc. for delicate and necessitous children recovering from operations or in a weak condition, was undertaken. The "Children's Care Fund" was then set up and the membership of the Committee made more representative.

It may be mentioned that the present Chairman and the Hon. Secretary have been associated in the work during the whole of that period.

It is believed that in a very quiet way and with but small resources the Children's Care Fund has been of inestimable value to needy school children during the past. Unfortunately, the number of individual subscribers has been seriously reduced by deaths and by removals from the district. They now number only about five or six, in addition to the contributions from the two Teachers' organisations, which are very welcome. If a few more regular subscribers could be obtained they would form a valuable means of ensuring a steady income.

TENTH

ANNUAL REPORT

ON THE

Medical Inspection and Treatment

OF

Torquay Secondary

School Children

1927.

MEDICAL INSPECTION.
TORQUAY SECONDARY SCHOOL, 1927.

The School Medical Officer,
Torquay.

SIR,

I have the honour to submit the Tenth Annual Report on the Medical Inspection and Treatment of the pupils at the Torquay Secondary School.

I. Introduction. School Buildings.

The Senior School is situated at the junction of Barton Road with Newton Road, and comprises a main block of buildings, used by the Boys' and Girls' Departments, with three sets of huts and rooms in a house on the grounds of the premises. The main block is of modern construction, with efficient lighting, heating and ventilation; but the conditions of working in the huts leave much to be desired, as the series of experiments carried out in 1924 and 1925 showed conclusively. And in addition to this defective heating and ventilation, the lighting is at times inadequate.

These huts are admittedly temporary, but it is urgently recommended that as soon as circumstances allow, the further extension of the main school will be carried out, when the whole number of pupils would be always under the best conditions for their work.

The Junior School is situated at Gainsborough House, near Torre Station, and this too is a temporary arrangement.

The placing of this school in better premises at the first opportunity is a very necessary recommendation. It is satisfactory to record that this question of other premises is receiving the consideration of the Authorities. For the Junior School after all plays a most important part in every respect in preparing the children to benefit more effectively by the course through which they are to pass in the Senior Department.

The general cleanliness and tidiness of all the premises have been, on the many occasions on which I have visited the school, very good and entirely satisfactory.

II. Medical Inspection.

The arrangements for the examination of the pupils at this school are similar to those described for the elementary schools: each department (Boys', Girls' and Junior), was visited several times during the year and routine and special cases seen on each occasion. As was the case in 1926, an endeavour was made to examine all the pupils in actual attendance, and of about 645 on the roll, 557 were examined as routine cases, compared with 579 inspected in 1926. This ensures that nearly every child is seen each year, and must be considered a highly satisfactory arrangement; 70 special cases were examined at the request of parents and teachers.

Every attempt is made to secure the correct and adequate treatment for each defect, and the defective cases are frequently re-examined with this end in view: and during 1927, 416 re-examinations were made.

Excluding dental disease, 80 individual pupils had defects requiring treatment—*i.e.*, 14.4%, as compared with 15.6% in 1926.

III. Findings of Medical Inspection.

(a). *Uncleanliness.* The standard of general cleanliness is quite good, and no case of uncleanliness was found in examination of pupils. The general tone of the school and the personal appearance of the pupils are most satisfactory, and there is evidently a strong desire on the part of the scholars to avoid anything in their appearance or behaviour which would be detrimental to their school.

The *clothing* and footgear were without exception satisfactory in every way, and the uniformity of the type of clothes in both Boys' and Girls' Departments is doing much to foster the high tone which prevails.

(b). *Nutrition.* 539 children were of normal and good nutrition, and 18 were more or less below normal; but of the latter no cases were so unsatisfactory as to require supervision.

(c). *Tonsils and Adenoids.* Eleven pupils were found to have markedly enlarged tonsils or adenoids; nine were referred for treatment, and two for palliative measures and continued observation. Two cases of nasal obstruction were found, one being referred for treatment; and there were two cases of nasal catarrh, and one of laryngitis referred for treatment. In addition, four special cases of nose and throat defect were referred for treatment and three were kept under observation. During the year five cases were operated on for tonsils and adenoids, three being done at the Torbay Hospital and two privately.

(d). *Tuberculosis.* Five suspected cases were discovered, two being referred for treatment and three kept under observation.

(e). *Vision and External Eye Disease.* The pupils are all carefully tested, both for distant and near vision, and for evidence of colour blindness. 12 cases were found to have defective vision in one or both eyes; these and 13 specials were referred for treatment, while one routine case was kept under observation. 27 pupils attended the Clinic and were submitted to refraction; and glasses were prescribed and obtained in 25 cases. Ten others were treated privately and obtained the necessary glasses in the nine cases in which glasses were prescribed.

All cases having defective vision are kept under close observation throughout their school lives in an attempt to ensure that glasses are properly worn and changed when required.

Five cases of external eye disease were discovered on routine inspection: two of these were kept under observation, while three, together with two specials, received treatment.

(f). *Ear Disease and Hearing.* Four children were suffering from ear disease and deafness, and were referred for treatment; five specials were treated at the Clinic, and one was kept under observation.

(g). *Dental Defects.* 412 pupils (74%), had clean mouths, and 139 (25%) minor defects of one kind or another; six had bad mouths with more than five decayed teeth, and four were referred for immediate treatment.

The separate Report of the Dental Surgeon is found on page 79.

(h). *Heart Disease and Anæmia.* Seven children were found to have heart defects, two being organic and the remainder functional.

There were 19 routine cases of anæmia, and four special cases.

(i). *Lung Disease (Non-Tuberculous).* Two cases of asthma were discovered, both being referred for treatment; one special case was kept under observation.

(j). *Crippling Defects.* Seventeen children had narrow or pigeon chests, ten showed evidence of slight spinal curvature, and one was flat-footed. There was one case of torticollis, which was referred for treatment.

Two crippled cases were examined; of these one is old dislocation of hip, and one is the result of accident.

(k). *Other Defects.* Nine other defects were discovered, three being referred for treatment and six being kept under observation. These include cases of slightly enlarged thyroid gland, inguinal hernia, synovitis, etc.

IV. Infectious Disease.

No outbreaks of infectious disease have occurred during 1927, and the school has been free from many cases of serious illness. The freedom from serious outbreaks of epidemics may be due to the fact that many of the pupils have acquired immunity to the school epidemic diseases earlier in childhood.

V. Following-Up.

Every attempt is made to secure adequate and correct treatment for defective cases on the lines described for

elementary school children: and an endeavour is made to explain in many cases personally to the parents, on some occasions the School Nurse visiting the homes for this purpose. By this and by frequent re-examinations, the defects are almost without exception remedied, and the general work of following-up is not difficult, as both parents and pupils realise the necessity of proper treatment.

VI. Clinic Work.

The number of pupils attending the Clinic is not large, as every effort is made to refer to their private doctor cases in which the financial condition of the parents will allow. A small number of children (53) attended the Clinic for treatment, the number of attendances being 106.

VII. Physical Training.

The physical training is very well carried out at these schools, in accordance with the existing syllabus, and it is fortunate that this subject is in the hands of such able exponents as the instructors there; the difference in the physique, as the time during which the pupil has been at the school increases, is in many instances, very marked. But there are still a few cases where the pupil's physique is not what it might be, and we want to make the conditions such that *all* the scholars will be (when they leave school), first class in health as well as in the School Certificate or other examination.

The staff are very enthusiastic to do whatever is best for the individual pupil, to try to increase physical fitness in the less robust, to avoid overstrain in the more healthy. It is realised that it is most essential to search for and find a proper adjustment of the phases of physical and mental activity, the effective accomplishment of which would be to increase efficiency in both directions.

VIII. Provision of Meals.

A most valuable part of the general school régime is the provision of dining halls, one for the Boys' and one for the Girls' Department. Here every day a hot dinner is served for

the sum of 9d.; and in addition, arrangements are made so that those pupils who wish to bring their own dinners may have their food warmed up and any extras supplied as required. On an average about 81 boys and 94 girls stay each day for dinner.

Through the courtesy of Miss Jackson, Head Mistress of the Girls' School, I personally have been present at dinner at this school, and I cannot speak too highly of the general arrangements. The menu, which includes meat and two vegetables, and a sweet, is varied each day, and the catering is excellent (it is of course entirely self-supporting), and the milk supplied is all Grade A—Tuberculin Tested. Judging from the number of pupils present, it must be of inestimable benefit to parents and scholars alike; for not only is it essential to those who come in daily by train, but it obviates a large amount of fatigue for those pupils who have a long distance to go to and from school in the $1\frac{1}{2}$ hours allowed. After dinner, pupils may read, walk about the grounds, or play some form of organised games, if time allows.

In the Junior Secondary School, the arrangements are most ably made, in spite of the lack of accommodation (to which reference has previously been made); and some 40 children stay to dinner. The hot dinners (meat and two vegetables and pudding) are 9d.; while for those who bring their own dinner, which can be warmed at the school, there is a service fee of $\frac{1}{2}$ d. a day or $2/6$ a term. Hot milk can also be obtained at 11 a.m. After dinner, a rest is taken daily (lying down for those who need it); and through the unlimited enthusiasm of the Head Teacher, Miss Wyatt, there is nothing left undone in the many great and small ways and means of helping the pupils.

An army, it is said, marches on its stomach, and a school must necessarily progress in a somewhat similar way; and those who are responsible for the general arrangements and catering in the Torquay School are to be highly congratulated, for the provision of meals is closely interwoven with the maintenance of efficient health.

IX. Co-operation of Teachers.

Every facility is afforded the Medical Officer in his visits to the schools, and the smooth and harmonious way in which the inspection is done must necessarily be the result of much care, forethought and extra work on the part of the Heads of the three schools. The weighing and measuring of each pupil is done in advance, and ample good accommodation provided for the inspection itself; and the care shown by the Staff in individual cases, especially the defective pupils, is all that can be desired. Perhaps much more satisfying than the gratitude which the School Medical Service obviously owes for such courtesies, the Staff at these schools can certainly feel that it is their co-operation which is, to a very large extent, ensuring the fullest possible measure of results.

Further than this, much interest has been shown in the syllabus on "The Practice of Health," of the Headmasters' Conference, 1924; and this, I feel sure, augurs well for a future widening of the term "Hygiene." For it will result, in the long run, in abolishing much of what has been regarded as the dry and uninteresting part of this subject, and substitute a more comprehensive way of ensuring what is most important—the *Practice* of Health.

A school with such a Staff may well be considered fortunate; and the three departments are in such a happy category.

X. Co-operation of Parents.

A few parents were present at the routine examinations, 68 attending in 1927 (compared with 77 in 1926). The difficulties of coming in from surrounding places, the fact that some of the pupils have been examined at the elementary schools, or the fact that all except "entrants" have been examined previously at the Secondary School, may account in part for the absence of the majority of the parents. But in any case there is never any difficulty in obtaining treatment for any defect, and the absence of parents would not seem to indicate indifference or lack of interest.

XI. Conclusion.

Heredity endows each individual with varying amounts of mental capacity, of physical strength, and of other innate potentialities; and environment alters or modifies these qualities to a greater or less degree. Unfortunately the great possibilities of these various inborn talents are frequently frustrated and stultified by unfavourable environmental factors, or by conditions of chance beyond the control of any single person. But it is much more often found that the individual is largely to blame, and that the lavish provision by Nature of invaluable inherent qualities is received in the same way as many a large inherited fortune; where lack of thought, careless unconcern, sheer reckless abuse rapidly throw away vast possibilities.

Self-help in anything is not popular in these days; but it still remains one of the most important factors in the broad process of education. And perhaps no subject illustrates the need for individual self-help more than the question of fatigue in its relation to work: for it concerns very closely both the mental and physical activities of the scholar. It is not uncommon to find in school children many cases where fatigue is adversely affecting mental progress and seriously retarding physical growth; and yet by a wise re-arrangement of the daily routine, much could be done to avoid this. In other spheres of life, the Industrial Research Board have done considerable work on the subject of fatigue, and already their labours have resulted in advantages to both employer and employed. And it is surely not too much to hope that some consideration should be given to it in the case of the growing boy or girl.

The curriculum at school is very full, and the demands of growth on the adolescent frame are indeed great: and the average boy or girl is so successfully indulged in many unphysiological ways by the parents, who seem to want feverishly to crowd everything into the simple years of childhood, that the race of life is thereby made even more exacting, more difficult, more fatiguing and more exhausting. And it needs the very serious thought and concerted effort of parent, teacher and pupil, to steer between the Scylla of

indolence, and the Charybdis of over-strain, to ensure a judicious arrangement of hours of study, of physical education, of recreation, of leisure,—yes, even of the whole general upbringing of the child.

It is a failing of human nature, as Seneca remarked, to complain of the shortness of time, although the individual usually has much more than he knows how to utilise; for that ancient philosopher pointed out that we are often doing nothing at all, or doing nothing to the purpose, or doing nothing that we ought to do. And in the light of these criticisms, even the arrangement of the day's routine of a school boy or girl can bear some alteration or improvement.

The child who finds homework too much may frequently be a case where the brain is fatigued and the body tired after a full day at lessons and games, the journey to and from school, and perhaps with girls, some share in the housework at home. While the continuous lack of sleep each night by not going to bed early enough is another most pernicious—and I regret to say still far too common—way of injuring health and of unnecessarily fatiguing the mind and body.

It is the individual pupil, guided and helped by his parents and teacher, who can do most for himself to ensure the best results of education and development. For largely by self-help alone can the boy or girl attain that much-desired aim—mental efficiency and physical fitness with a personality that will endure: and it is this full “glow of health,” as one of the most distinguished of our authorities on Diseases of the Mind puts it, that “would make the hill of Life much more easy to climb for the many.”

I have the honour to be,

Sir,

Your obedient Servant,

J. V. A. SIMPSON,

Assistant Medical Officer.

REPORT OF DENTAL SURGEON.**(SECONDARY SCHOOL).**

*The School Medical Officer,
Torquay.*

SIR,

As the result of the Dental Inspections of the Scholars of the three departments of this school, 615 children were examined, of these 530, or 86%, were referred for treatment; 311, or 59%, were treated at the Dental Clinic; 19 were absent, whilst the remaining 201, or 38%, promised to have private treatment.

Private treatment is encouraged in every instance, where parents can afford it; this is only fair, not only to the private practistioners, but allows me more time to devote to the necessitous cases.

It is, however, somewhat difficult to ascertain whether this private treatment is obtained, but the Head Teachers are making their best endeavours to impress on the children the necessity for this work to be done. This moral support is most encouraging, and for it I am grateful.

Some of the treatment was very extensive; in one case eight permanent extractions were necessary, whilst several required seven or eight fillings. These, however, were mostly new scholars.

I am glad to state, that on the whole, the standard of oral hygiene is good, possibly due to the type of scholars, and possibly to the results of previous treatment.

Of the 685 fillings, 681 were in permanent teeth and four in temporary. In many cases the fillings were large, involving a good deal of restoration. Naturally this takes considerable time and trouble, but the results are satisfactory and are appreciated by the patients.

There were 81 extractions of permanent teeth and 119 temporary. The former seems to me rather high a proportion of extractions, but probably is accounted for by the age to which scholars remain at this school and to the fact that 11 permanent teeth were removed for regulation purposes.

In 60 cases scaling was performed for the lower incisors.

As previously stated, I greatly appreciate the co-operation of the Head Teachers, and also the fact that rooms are available at the schools for inspections; such facilities save much time and ensure greater accuracy.

I have the honour to be,

Sir,

Your obedient Servant,

WINIFRED M. HUNT,

Dental Officer.

SECONDARY SCHOOLS.

TABLE I. (SECONDARY).

*Number of Children Inspected 1st January, 1927,
to 31st December, 1927.*

AGE.	4	5	6	7	8	9	10	11	TOTAL.
Boys - -	1	5	6	15	14	21	27	38	127
Girls - -	—	1	8	10	11	12	12	37	91
TOTALS	1	6	14	25	25	33	39	75	218

AGE.	12	13	14	15	16	17	18 & over	TOTAL	GRAND TOTAL.
Boys - -	31	47	40	38	19	6	3	184	311
Girls - -	30	28	38	38	14	7	—	155	246
TOTALS	61	75	78	76	33	13	3	339	557

B—OTHER INSPECTIONS.

Number of Special Inspections	...	...	70
Number of Re-inspections	...	...	416
Total	...	...	486

TABLE II. (SECONDARY).

A—RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR
ENDED 31ST DECEMBER, 1927.

DEFECT OR DISEASE.				Routine Inspections : No. of Defects.		Specials No. of Defects.	
				Requiring Treatment.	Requiring to be kept under ob- servation, but not requiring Treatment.	Requiring Treatment.	Requiring to be kept under ob- servation, but not requiring Treatment.
(1)				(2)	(3)	(4)	(5)
SKIN	..	Malnutrition, etc.	.. ..	—	—	—	—
		Uncleanliness— (see Table IV., Group V.)					
		Head	.. ..	—	—	—	—
		Body	.. ..	—	—	—	—
		Ringworm—					
		Scalp	.. ..	—	—	—	—
		Body	.. ..	—	—	—	—
		Scabies	.. ..	—	—	—	—
		Impetigo	.. ..	—	—	—	—
		Other Diseases (Non-Tuberculous)		9	—	4	—
EYE	..	Blepharitis	.. ..	1	2	—	—
		Conjunctivitis	.. ..	2	—	1	—
		Keratitis	.. ..	—	—	—	—
		Corneal Opacities	.. ..	—	—	—	—
		Defective Vision (excluding Squint)	.. ..	12	—	13	—
		Squint	.. ..	—	1	—	—
		Other Conditions	.. ..	—	—	2	—
EAR	..	Defective Hearing	.. ..	1	—	3	1
		Otitis Media	.. ..	3	—	1	—
		Other Ear Diseases	.. ..	—	—	1	—
NOSE AND THROAT		Enlarged Tonsils only	.. ..	4	1	—	—
		Adenoids only	.. ..	1	—	—	—
		Enlarged Tonsils and Adenoids		4	1	1	1
		Other Conditions	.. ..	4	1	4	2
ENLARGED CERVICAL GLANDS (Non-Tuberculous)				1	—	—	—
DEFECTIVE SPEECH				—	—	—	—

TABLE II.—*continued.*

(1)				(2)	(3)	(4)	(5)
TEETH	Dental Diseases (see Table IV., Group IV.)			4	—	—	—
HEART AND CIRCULATION	{	Heart Disease—					
		Organic	—	2	—	—	
		Functional	1	4	—	—	
		Anæmia	14	5	4	—	
LUNGS ..	{	Bronchitis	—	—	—	—	
		Other Non-Tuberculous Diseases	—	2	—	—	
TUBER- CULOSIS	{	Pulmonary—					
		Definite	—	—	—	—	
		Suspected	2	3	—	—	
		Non-Pulmonary—					
		Glands	—	—	—	—	
		Spine	—	—	—	—	
		Hip	—	—	—	—	
		Other Bones and Joints	—	—	—	—	
		Skin	—	—	—	—	
Other Forms	—	—	—	—			
NERVOUS SYSTEM	{	Epilepsy	—	—	—	—	
		Chorea	—	—	—	1	
		Other Conditions	—	1	—	—	
DEFOR- MITIES	{	Rickets	—	—	—	—	
		Spinal Curvature	10	—	—	—	
		Other Forms	19	2	—	—	
Other Defects and Diseases			3	6	31	—	

B—NUMBER OF *individual children* FOUND AT *Routine* MEDICAL INSPECTION
TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

Number Inspected	...	...	557
Requiring Treatment	...	...	80
Percentage requiring Treatment	...	...	14.4

TABLE III.

(See ELEMENTARY SCHOOL REPORT, PAGE 42).

NOTE.—Five physically defective crippled children attend the Secondary School—one the result of accident, three severe heart disease, and one congenital deformity.

TABLE IV. (SECONDARY).

*Return of Defects treated during the Year ended
31st December, 1927.*

TREATMENT TABLE.

*Group I.—Minor Ailments (excluding Uncleanliness, for which
see Group V.)*

Disease or Defect.	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme.	Otherwise.	Total.
(1)	(2)	(3)	(4)
<i>Skin—</i>			
Ringworm—Scalp ...	—	—	—
Ringworm—Body ...	—	—	—
Scabies ...	—	—	—
Impetigo ...	—	—	—
Other Skin Diseases ...	5	1	6
<i>Minor Eye Defects—</i> (External and other, but exclud- ing cases falling in Group II.)	4	1	5
<i>Minor Ear Defects ...</i>	5	2	7
<i>Miscellaneous—</i> (e.g., minor injuries, bruises, sores, chilblains, etc.) ...	25	2	27
Total ...	39	6	45

TABLE IV.—*continued.*

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I.)

Defect or Disease.	Number of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to refraction by private practitioner or at hospital, apart from the Authority's Scheme.	Otherwise.	Total.
(1)	(2)	(3)	(4)	(5)
Errors of Refraction (including Squint) ...	27	9	—	36
Other Defect or Disease of the eyes (excluding those recorded in Group I.) ...	—	1	—	1
Total ...	27	10	—	37

Total number of children for whom spectacles were prescribed :

(a) Under the Authority's Scheme ... 25

(b) Otherwise ... 9

Total number of children who obtained or received spectacles :

(a) Under the Authority's Scheme ... 25

(b) Otherwise ... 9

Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.				
Received Operative Treatment			Received other forms of Treatment.	Total number treated.
Under the Authority's Scheme, in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
(1)	(2)	(3)	(4)	(5)
3	2	5	—	5

Group IV.—Dental Defects.

(1) Number of Children who were :—

(a) Inspected by the Dentist :

Aged :

Routine Age Groups	5 ...	3	}	Total ...	615
	6 ...	10			
	7 ...	26			
	8 ...	24			
	9 ...	22			
	10 ...	22			
	11 ...	61			
	12 ...	89			
	13 ...	119			
	14 ...	104			
	15 ...	82			
	16 ...	34			
	17 ...	14			
	18 ...	5			

Specials ... 58

Grand Total 673

(b) Found to require treatment ... 588

(c) Actually treated ... 369

(d) Re-treated during the year as the result of period-
ical examination ... 193

(2) Half-days devoted to	...	{ Inspection ... 7 Treatment ... 89 }	Total ...	96
(3) Attendances made by children for treatment	...	...	...	593
(4) Fillings	...	{ Permanent teeth 681 Temporary teeth 4 }	Total ...	685
(5) Extractions	...	{ Permanent teeth 81 Temporary teeth 119 }	Total ...	200
(6) Administrations of general anæsthetics for extractions	...	Total ...	Nil	
(7) Other operations	...	{ Permanent teeth 413 Temporary teeth 64 }	Total ...	477



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